A DESCRIPTIVE STUDY TO ASSESS THE RISK FACTORS OF CERVICAL CANCER AMONG MARRIED WOMEN IN SELECTED COASTAL REGION KERALA, 2015.

DISSERTATION SUBMITTED TO

THE TAMIL NADU Dr.M.G.R. MEDICAL UNIVERSITY,

CHENNAI

IN PARTIAL FULFILMENT OF REQUIREMENT FOR THE DEGREE OF

MASTER OF SCIENCE IN NURSING

APRIL 2016

Internal Examiner:

External Examiner:

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LIST OF ABBREVIATIONS

CIN	-	Cervical Intraepithelial Neoplasia
DNA	-	Deoxy ribo Nucleic Acid
HPV	-	Human Papilloma Virus
HR HPV	-	High Risk Human Papilloma Virus
HSIL	-	Highgraide Squamous Intraepithelial Lesion
ICCR	-	International Centre for Collaborative Research
IERB	-	Institutional Ethics Review Board
NCD	-	Non Communicable Disease
OPD	-	Out Patient Department
US	-	United States
VIA	-	Visual Inspection with Acetic Acid
WHO	-	World Health Organization

LIST OF SYMBOLS

=	-	Equals to
<	-	Less than
P	-	Level of significance
>	-	More than
%	-	Percentage
+	-	Plus
×	-	Multiplication
n	-	Number of samples
N	-	Total number of samples

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ABSTRACT

"Assessment of risk factors of cervical cancer among married women in selected coastal region, Kerala".

Abstract

Aim and objective: To assess the risk factors of cervical cancer among married women in selected coastal region, Kerala. **Methodology:** A non experimental descriptive research design was used, using 100 married women who satisfy the inclusion criteria were selected as samples from coastal region using non probability purposive sampling technique and the risk factors of cervical cancer among married women were assessed through structured interview schedule. **Results:** The risk factors for cervical cancer found to be associated are early age at first coitus, extra marital relationship, number of birth given and using cloth as sanitary napkin. These findings showed that the fisher women are at risk of developing cervical cancer as they had many factors contributing to it. **Conclusion:** The researcher identified various risk factors of cervical cancer among married women in coastal region and also the study revealed that there were selected risk factors which had statistical significant association with their demographic data. Mass awareness and screening programme can be initiated to reduce the magnitude of the problem.

Keywords: *Associated factors, coastal region, cervical cancer, fisher women*

INTRODUCTION

Cancer can have severe health consequences, and it is a leading cause of death. Breast, lung, uterine cervix, and stomach cancer are most common among women. Cervical cancer is the second most cancer among woman and is the primary cause of cancer related deaths in developing countries. More than 60% of world's total new annual cases occur in Africa, Asia and Central and South America. These regions account for 70% of the world's cancer deaths. Rural women are at higher risk of developing cervical cancer as compared to their urban counterparts.

In India more women die from cervical cancer than in any other country, it kills around 72,000 women every year (National Cancer Control Programme, 2012). Some of the most common cancer types, such as breast cancer, cervical cancer, oral cancer and colorectal cancer have high cure rates when detected early and treated according to best practices. (World Cancer Report, 2014)

Cervical cancer tops the list of cancers in women in the rural belt while any kerala study. It could be a comment on the changing lifestyle and hygiene habits of the urban and the rural population that is reflected in the registry, but experts point out that there are practical difficulties in making it a scientific comment.

OBJECTIVE

To assess the risk factors of cervical cancer among married women in the coastal region.

RESEARCH HYPOTHESIS

There is a significant association of selected demographic variables with risk factors of cervical cancer among married women in the coastal region.

METHODOLOGY

A non experimental descriptive research design was adopted to assess the risk factors of cervical cancer among married women in selected coastal region, kerala. The sample size consisted of 100 married women who fulfilled the inclusion and exclusion criteria and were selected through non probability purposive sampling technique. The study was conducted at the coastal region of Thrikkunnapuzha, Alappuzha District. It covers about 26,790 coastal women population, in that 9850 women were between the age group of 20-50 years.

The tool consisted of 2 parts demographic variables and structured interview schedule to assess the various risk factors.

RESULTS & DISCUSSION

The study findings revealed that various demographic variables such as age of women, educational status of women and husband, occupation of both, monthly family income, religion had high statistical significant association with risk factors such as dietary pattern , number of birth given , extra marital relationship, frequency of coitus and using cloth as sanitary napkin. These findings evidence that, the married women living in coastal region were not aware of these risk factors which can lead to cervical cancer. Hence the findings recommended to initiate a cervical cancer screening

programme and conduct mass awareness campaign to reduce the magnitude of problem and adopt a healthy life style among coastal women.

Thus the hypothesis stated earlier that “There is a significant association of selected demographic variables with risk factors of cervical cancer among married women in the coastal region” was accepted.

CONCLUSION

The researcher identified the various risk factors of cervical cancer among married women in coastal region .The study findings revealed that there is a statistically significant association of demographic variables with selected risk factors. Mass awareness campaigns and screening programme to be initiated to reduce the magnitude of the problem.

IMPLICATION

Implement frequent Mass Education and Awareness Programme inorder to identify the risk factors of cervical cancer in OPD. Conduct frequent seminars, workshops, and conferences for students regarding the recent advancement in risk assessment of cancer cervix in order to provide updated information to enhance their knowledge. Make the staff to carry out periodical cervical cancer assessment and provide surveillance and present an updated epidemiological picture of cervical cancer among married women. Incorporate the findings of the study to plan training program for all health care personnel at peripheral health units

CHAPTER-1

INTRODUCTION

INTRODUCTION

All human life in the planet is born by women. Women are considered as the stronger gender from time immemorial. This is because studies show that a woman can live more than 80 years as well. On one hand this is true. But on the other hand we cannot deny the fact that women suffer from various types of health problems in their life. Some are quite common while others are specific. Among these health issues cancer paves the top priority.

Cancer is a generic term for a large group of diseases that can affect any part of the body. Cancer is an unregulated growth of immature cells. These cells divide and grow in uncontrollable manner which invades the distal organs through direct invasion, lymphatic or blood stream. Cancer can have severe health consequences, and it is a leading cause of death. Breast, lung, uterine, cervix, and stomach cancer are most common among women**.** (National Cancer Institute, 2012). Cervical cancer is the second most cancer among woman and is the primary cause of cancer related deaths in developing countries.

Cervical cancer starts in cells lining the cervix. The cervix is the lower part of the uterus (womb). The upper part of the body of the uterus is where a fetus grows. The cervix connects the body of the uterus to the vagina (birth canal). The part of the cervix closest to the body of the uterus is called the endocervix. The part next to the vagina is the exocervix or ectocervix. The 2 main types of cells covering the cervix are squamous cells on the exocervix and glandular cells on the endocervix. The place where these cell types meet is called the transformation zone .The exact location of the transformation zone changes as the age advances and with childbirth. Most cervical cancers start in the cells of the transformation zone.

In India more women die from cervical cancer than any other country, it kills around 72,000 women every year (**National Cancer Control Programme, 2012)**. Some

of the most common cancer such as breast cancer, cervical cancer, oral cancer and colorectal cancer have high cure rates when detected early and treated according to best practices. **(World Cancer Report, 2014)**

A risk factor is anything that increases the chance of getting a disease such as cancer. Having a risk factor, or even several, does not mean that will get the disease. Several risk factors increase the chance of getting cervical cancer like personal habits, dietary pattern, perineal hygiene, sexual behavior gynecological factors.

Tobacco by-products have been found in the cervical mucus of women who smoke. Researchers believe that these substances damage the deoxyribonucleic acid (DNA) of cervical cells, and may contribute to the development of cervical cancer. Smoking also makes the immune system less effective in fighting against human papilloma virus (HPV) infections.

In thinking about the following risk factors, it helps to focus on those can change or avoid like smoking or human papilloma virus infection, rather than those that cannot such as age and family history. It's still important, though, to know about risk factors that cannot be changed, because it's even more important for women who have these factors to get regular Pap tests to detect cervical cancer early.

1.1 BACKGROUND OF THE STUDY

Cervical cancer in women is the most common cancer responsible for the death .Cervical cancer is a serious public health problem globally. Every year around 500.000 women develop cervical cancer and almost 274,000 of them die from the disease. Worldwide cervical cancer is the second most commonly diagnosed cancer **(WHO)**

Cervical cancer is diagnosed to be the leading cause of cancer death for women in the United States(US).Around 10,042 women in the US were diagnosed with cervical cancer and 4,074 women in the US died from cervical cancer. It is estimated that about 11,967 new cases of HPV associated cervical cancer are diagnosed in the united states each year **(GLOBOCON 2014)**

The number of new cases of cervical cancer was 7.7 per 100,000 women per year. The number of deaths was 2.3 per 100,000 women per year. Rural women are at higher risk of developing cervical cancer as compared to their urban counterparts. Cervical cancer is less common in Muslim than in Hindu **(GLOBCON, 2015)**

Mortality varies 18 – fold between the different regions of the world, with rates ranging from less than 2 per 100,000 in Western Asia, Western Europe and Australia/ New Zealand to more than 20 per 100,000 in Melanesia (20.6), Middle (22.2) and Eastern (27.6) Africa (GLOBOCAN, 2012)

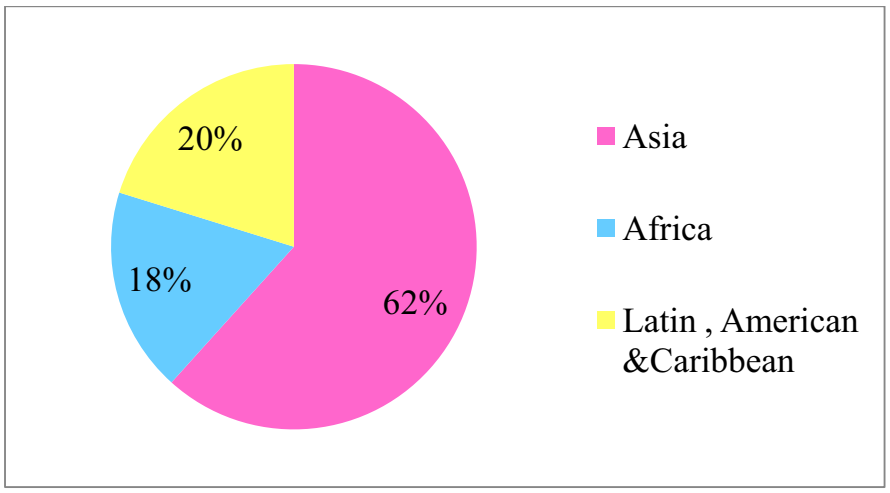

Fig.1.1.1: Global Incidence of Cervical Cancer

Source: International agency for research on cancer (2012)

Cervical cancer is the most common gynaecological malignancy in the world. 1.1 million deaths and 1.7 million new cancer cases every year in the South- East Asia region. In 2012 , worldwide 266,000 deaths from cervical cancer were accounting for 7.5% of all female cancer deaths. Almost nine out of ten (87%) cervical cancer deaths occur in the less developed regions.

Cancer prevalence in India is estimated to be around 2.5 million, with over 8, 00,000 new cases occurring each year. World Health Organization (WHO) has estimated that the cancer deaths in India are projected to increase 700,000 by 2015. More than 70% of fatal death cancers occur in productive ages of 30-69 years.

Cervical cancer tops the list of cancers in women in the rural belt of Kerala. It could be a comment on the changing lifestyle and hygiene habits of the urban and the rural population that is reflected in the registry, but experts point out that there are practical difficulties in making it a scientific comment. In Thiruvananthapuram, the age adjusted rate of incidence of cancers in women is 33 cervical cancers per 100,000 women. The survival chance of a person becomes better if the cervical cancer is diagnosed and treated at earlier stages. Therefore it is important to avail of cervical cancer screening (Tata Memorial Hospital Report, 2015)

In Tamil Nadu has the highest number of cervical cancer patients in the country with the districts of Thiruvallur, Villupuram and Cuddalore, and Puducherry, having more than 20 cases of cervical cancer for every 1 lakh population (Times of India, 2015)

Kerala reports nearly 50,000 new cancer cases every year. It has the lowest positive population growth rate in India. The state's coastline extends for 595 kilometres (370 mi), and around 1.1 million people in the state are dependent on the fishery industry which contributes 3% of the state's income. Due to this move many changes have take place in life style practices like dietary, personal and menstrual hygiene, perineal, sexual, family welfare and gynaecological factors cause increased risk of cervical cancer in coastal region.

Thulaseedharan JV, Malila N, Hakama M, Esmy PO, Cheriyan M, et al. (2012). Prospective cohort study was conducted to determine the risk factors for cervical cancer are very rare from low and medium resource countries in South India. In this study based on a cohort of 30,958 women coming from the control arm of a previous cluster randomized screening trial. Findings of this study is persistent infection with high risk HPV, and also pan chewing with or without tobacco and poor nutritional status and common problem among women with poor socio economic status is leading factor of cervical cancer.

Padma Mohan and Souwmya Shetty(2013) conducted a case control study on the risk factors of cervical cancer among coastal women in south India . The study was aimed to estimate the strength of association of the most contributing risk factors to cervical cancer. The study findings revealed that some contributing factors such as

personal hygiene, washing perineum after coitus and tobacco usage were leading cause for deaths among women and it is important to identify the risk factors associated with cervical carcinoma in hope that preventive measures can be taken earlier to reduce morbidity and mortality among women due to the malignancy.

Cervical cancer is the leading cause of mortality in women. In future cervical cancer may become the first cause of health problem among women. Therefore public awareness regarding risk factors of cervical cancer helps to modify the modifiable risk factors to prevent cancer cervix and to promote early detection of risk factors.

1.2 NEED AND SIGNIFICANCE OF THE STUDY

Of all the cancers that infect women in India, cervical cancer outnumbers its counterparts by a mile. Cervical cancer is the second highest cancer reported in India with incidence of 22.9% and mortality rate of 20.7%.Essentially, it is a cancer that is caused at the neck of the womb and infects the cervix. The virus alters the behaviour of the cells and over the years, can turn them malignant. Cervical cancer is a sexually transmitted disease. 80 per cent of all cases are caused due to the Human Papilloma virus (HPV) which transmits through sexual contact (normal, oral and anal), and is prevalent in both heterosexual and homosexual relationships. While males are asymptomatic carriers, they can transmit it to women. 90 per cent of all HPV infections are virtually preventable. The gestation period can range from 10-15 years, wherein the cells lie dormant (pre-cancer stage). Catching the virus at this stage is by far the most effective and simplest preventive mechanism.

Incident of cervical cancer is more prone in under developed areas. But there is a slight increase in the incidence in the coastal region especially among the married fisher women. The reasons being most of them are illiterate and they follow poor life style practices which makes them more prone for risk of developing the cervical cancer.

Several public health groups and civil society organisations have expressed concern over government's plans to introduce cervical cancer vaccine in the universal immunisation programme. Comprehensive cervical cancer control: a guide to essential practice will be launched at the world cancer Leaders summit on 3rd Dec2014. The main elements in the new guidance are vaccinate 9 to 13 yr old girls with two doses of HPV

vaccine, use HPV tests to screen women for cervical cancer prevention, communicate more widely for recent developments in technology and strategy for improving women's access to health services to prevent and control cervical cancer.

Community based cross sectional study was conducted by the department of community medicine. A J institute of Medical Science, in the urban field practice area, Kavoor among married women in the reproductive age group of 15 – 49 years. A total of 357 women in the reproductive age group participated in the study. More than two third (87.2%) of the study population belonged to the age group of 30-49 years . Around 52,7% of the respondents belonged to class 1V socio economic status and 22.1% of the respondents were married before the age of 18 years. In this study 14% had their first child before the age of 18 years and 43.2% respondents had 3 or more than 3 children. Cervical erosion was found in 38.4% of the respondents. Various risk factors like early age at marriage, low socio economic status, and multi parity are present in the study population. (Suma R.K 2011)

P.Swarnam, Vasantha, Gowri (2015) conducted a cross sectional study among 250 married fisher women at Tamilnadu to assess the vulnerability of the married fisher women for acquiring premalignant lesion by using convenient sampling technique. Data was collected by structured questionnaire method. The findings of the study showed that significant association of risk factors such as advanced age, low socio economic status, pre marital sex, extra marital relationship.

Aswathy Sreedevi, Reshma Javed, and Avani Dinesh in 2012 an estimated that there were 528,000 new cases of cervical cancer and 2,66,000 deaths from cervical cancer with 70% of those deaths occurring in developing countries. The risk factors include debut of sexual activity before age of 20 years old, multiple sexual partners, tobacco smoking, and oral contraceptive pill use for more than 5 years, history of cervical cancer in the family, high parity (more than 3 children born) and immune depression due to malnutrition or other systemic disease.

The fisher women community is one of the most vulnerable groups for reproductive tract infections and sexually transmitted infections because of their socio cultural practices like early marriage, sexually active life style, low socio economic

status, lack of hygiene practices etc which makes them prone for cervical cancer incidence (International journal of engineering research and general science 2015)

A cross sectional community survey was conducted in South Africa in 2012 for awareness of cervical cancer risk factors and symptoms, among 384 women. Finding of this study is high awareness about cervical cancer is needed to reduce risk factors and symptoms provides increase uptake of preventive methods and promote early health seeking for cervical cancer symptoms.

A pilot study was conducted on prevalence of cervical premalignant lesions and associated risk factors among married fisher women residing at Tondiarpet, Chennai. It is a cross sectional study ,34 married fisher women participated .the study findings showed that the fisher women community is more vulnerable for acquiring cervical cancer as evidenced by their high risk behavior**.** (Sornam.P, 2014)

Lack of awareness of risk factors and symptoms for cancer may lead to late diagnosis and poor prognosis. India's rapid urbanization is characteristics of a country changing status from a developing to developed country. Due to this changes have taken place in life style practices like increase in sedentary activity, in dietary practices increased use of shellfish smoking etc., these changes are putting our country to increased risk of cervical cancer among population.

A community based one cross sectional study was conducted by the department of the community medicine in 2011. The study of the socio demographic and behavioral risk factors for cervical cancer among urban women in coastal region Karnataka. A total of 357 women in the reproductive age group participated in the study. Findings of the study were, various risk factors like early age at marriage, low socio economic status are present. Women with cervical erosion should undergo regular cytological screening as they form risk group for dysplasia. It may lead to malignancy of cervix. The awareness programmes to impart health education to those peoples for improving their awareness regarding cervical cancer should be organized.

These data's showed that burden will worsen over a couple of years. Thus to reduce the future incidence of cervical cancer, it is vital to adopt a healthy life style and to avoid those unhealthy lifestyle practices. To understand healthy and unhealthy lifestyle practices it is necessary to explore the risk factors of cervical cancer.

Identification of risk factors of cervical cancer helps, in health promotion by health education to the public which then result in dietary pattern (Eg: Avoid shellfish) life style and behavioral changes avoidance of smoking etc. Thus the countries huge future cervical cancer incidence will be reduced easily by identifying risk factors with low cost.

The investigator during her clinical posting have taken care of many patients with cancer of cervix in both inpatient and outpatient department. Cervical cancer is a problem of global health concern. Cervical cancer screening services such as the Pap smear test might be effective in detecting early precancerous lesions. However, many women in low–middle income countries may not be in a good position to access these services due to various forms of inequalities .Most of the women were not aware of the risk factors which have made them to acquire the disease. Hence the investigator felt that if the risk factors of cervical cancer were identified and if the people were educated on those modifiable factors huge cancer cervix burden of present and future generations will be reduced. This created an enthusiasm within the investigator to identify the risk factors of cervical cancer.

1.3 STATEMENT OF THE PROBLEM

A descriptive study to assess the risk factors of cervical cancer among married women in selected coastal region, Kerala.

1.4 OBJECTIVES

1. To assess the risk factors of cervical cancer among married women in the coastal region.
2. To associate the selected demographic variables with risk factors of cervical cancer among married women in the coastal region

1.5 OPERATIONAL DEFINITIONS

1.5.1 Risk factors of cervical cancer

It refers to assessment of susceptible elements which may increase the chance of developing cervical cancer among married women in coastal region .It includes:

- factors related to personal habits (Tobacco usage, alcohol)
- factors related to dietary pattern(shell fish eating)
- factors related to perineal hygiene (type of sanitary napkin, change of sanitary napkin, drying of used cloth napkin, washing of perineum).
- factors related to sexual behavior and hygiene (vaginal douching after coitus ,frequency of sexual intercourse, extra marital relationship , pre marital sex and age of first sexual debut)
- factors related to family welfare practices and gynecological problems (use of temporary family planning methods , intra uterine device usage [copper T],problem in uterus , vaginal discharge , post coital bleeding and husband having problem)

1.5.2 Married women

It refers to female in the age group of 20-50 years residing in coastal region.

1.6 ASSUMPTION

Married women residing in coastal region may have the risk of developing cervical cancer.

1.7 RESEARCH HYPOTHESIS

There is a significant association of selected demographic variables with risk factors of cervical cancer among married women in the coastal region

1.8 DELIMITATION

The study will be limited to a period of 4 weeks.

1.9 CONCEPTUAL FRAMEWORK

Conceptual framework or model refers to concepts of the structure a framework of preposition for conducting research. The conceptual model refers to concepts, idea or

mental images of phenomena framed in mind on response to learning something new. It guides the investigator in schematic representation of the study systematically. It communicates clearly the relationship of various concepts.

The **Pender's Health Promotion Model (1984)** was adopted for the study. This model seeks to increase the individual level of wellbeing. The model focuses on aspects of individual modifying factors, perceptual factors and likelihood of action in health promotion behaviour.

As the investigator aims to assess the risk factors of cervical cancer among married coastal women .The Pender's Health Promotion model was found suitable.

- **Modifiable and Non modifiable factors**

The investigator identified the married coastal women through the data collection. The information collected regarding demographic variables of married coastal women were age , religion, education , occupation, family income and marital status.

- **Perceptual factors**

It refers to the assessment of the risk factors of cervical cancer among married coastal women by doing assessment on personal factors such as Tobacco usage and alcohol, menstrual and perineal hygiene factors such as type of sanitary napkin, change of sanitary napkin, drying of used cloth napkin and washing of perineum, sexual factors such as vaginal douching after coitus ,frequency of sexual intercourse, extra marital relationship, pre marital sex and age of first sexual debut, family welfare and gynecological factors such as use of temporary family planning methods,intra uterine device usage (copper T),problem in uterus , vaginal discharge , post coital bleeding and husband having problem.

- **Likelihood of action**

The likelihood of action in this study was the outcome of the forces in modifiable and non modifiable factors and perceptual factors which result in the health outcome in terms of presence or absence of risk factors of cervical cancer among married coastal women. The married women who had the presence risk factors were sent for referral to

health care utility and those who had absence of risk factors were considered having optimal health status. The common risk factors for cervical cancer identified among married coastal women were frequency of eating shell fish, extra marital relationship and genital problems were more prone to impairment the health status. At this juncture, the investigator provided pamphlet about awareness of cervical cancer and referral health care services as needed perform ongoing assessment and evaluation.

The investigator incorporated the awareness measures like issuing pamphlets and referral to health care utility services to those who had impaired health status, to improve the health of the coastal women in future. Reinforcement was given for those women who have optimal health status so that they will maintain their health status in their future.

Thus the Pender's Health Promotion Model for assessing the risk factors of cervical cancer among married coastal women provided to be perfect guidance for logical framework development of the study which enhanced the investigator to design the outline for the study by giving related phenomena and concepts for married coastal women. It also helped the investigator to blend various components of the theory into different aspects of nursing practice throughout the study, thus enabling to identify the risk factors of cervical cancer among married coastal women.

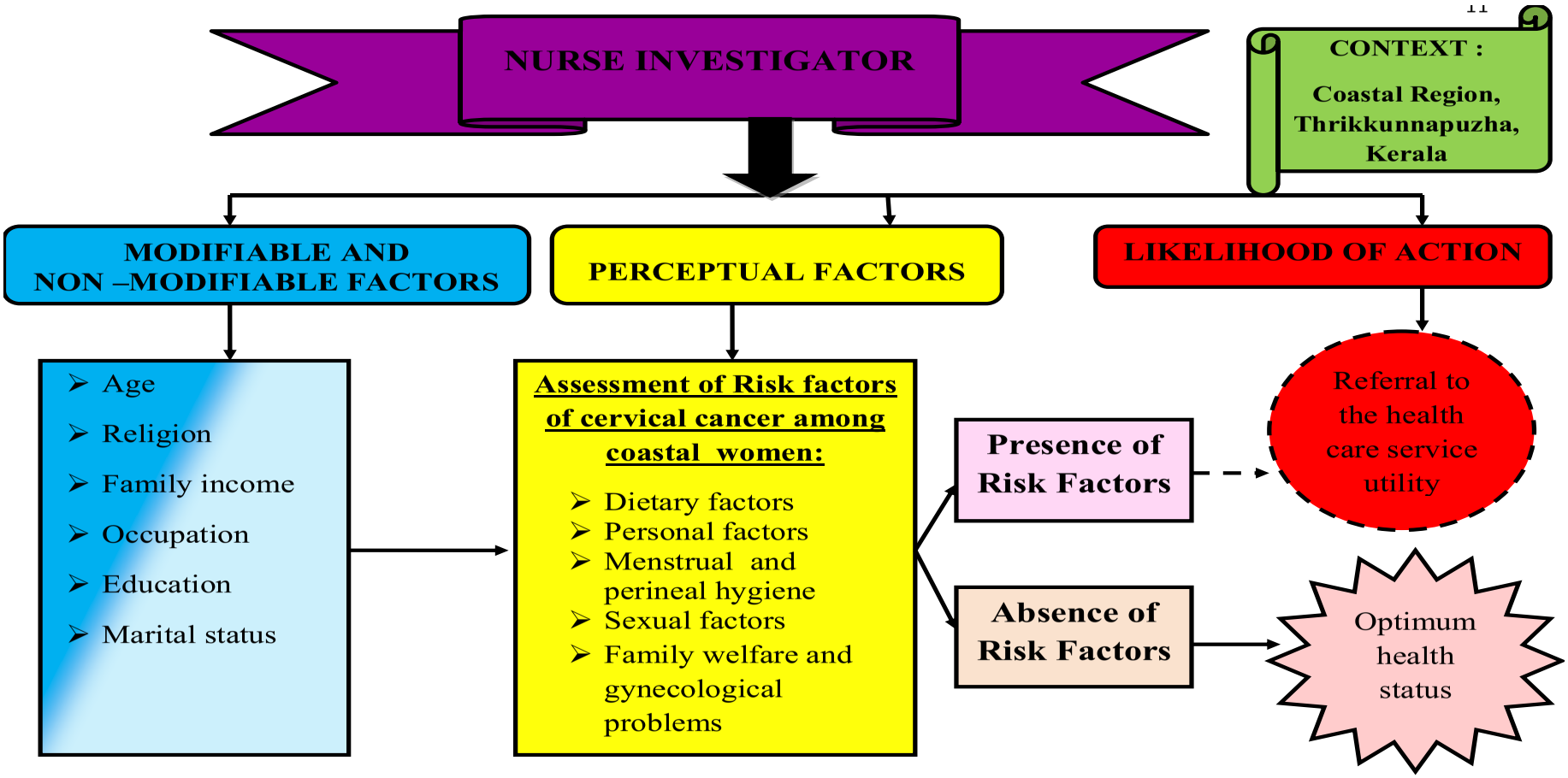

FIG 1.9.1 CONCEPTUAL FRAMEWORK BASED ON PENDER'S HEALTH PROMOTION MODEL

CHAPTER-2

REVIEW OF LITERATURE

REVIEW OF LITERATURE

This chapter deals with related literature review which aids to generate a picture of what is known about a particular situation.

According to Barbara Krainovich**,** (Wood and Judith Haher, 2002), "The review of literature is considered as a systematic and critical review of the most important scholarly literature on a particular topic"**.** In particular "Critical review is meant as summarization and evaluation of the ideas and information of an article". It means thinking carefully and clearly and taking into consideration about both the strengths and weaknesses of the content under the review.

The three main purposes of reviewing the literature is to describe what is known already about a topic **,**provides background for designing a research study and answers questions about clinical practice ,developing new projects and making decisions in nursing (Marilyn and Judith, 2011).

The design used in this study was non-experimental descriptive research design to assess the risk factors of cervical cancer among married women in selected coastal region Thrikkunnapuzha, Alappuzha District, Kerala.

This literature review was entailed through the various sources such as primary from published existing research studies, secondary from national and international journal articles and conference manual and the tertiary sources from Medical Surgical Nursing and Community Health Nursing books. The search database is from Google Scholar and Pubmed and the keywords used for it was personal habits, dietary pattern, perineal hygiene, sexual behavior, sexual hygiene, family welfare practices and gynaecological problems. As of overall reference, number of reviews had been collected from national journals and numbers from international journals.

For the purpose of logical and systematic sequence the chapter is divided into following 2 sections:

SECTION 2.1: Scientific reviews related to prevalence of cervical cancer among coastal women.

SECTION 2.2: Scientific reviews related to risk factors of cervical cancer among coastal women.

SECTION 2.1: SCIENTIFIC REVIEWS RELATED TO PREVALENCE OF CERVICAL CANCER AMONG COASTAL WOMEN

Critical Reviews

Multiple researchers (Teresa Cue, 2014; Guerreiro, et al, 2013) conducted studies to identify the magnitude of the presence of pre-cancerous and malignant lesions in the cervix and its relationship with etiological and risk factors. They revealed that prevalence of premalignant and malignant lesions in the cervix was high, with remarkable predominance of precancerous lesions in relation to cervix-uterine cancer. Researchers (Sudhir Gupta, et al, 2013) conducted an epidemiological study on cancer of breast and cervix are main among women cancers. The approach suggests that modified cancer control project can be extent to more states and in NCDs some basic investing can also be added as per STEP surveillance approach.

Researchers (Marie josephene, et al, 2011) conducted a study to obtain surveillance and epidemiology of cervical cancer. The study findings revealed that geographic and racial/ethnic variability were evident in cervical cancer incidence and mortality. (Marimuthu, 2012) in his population based study had estimated the cancer's mortality rate been higher with age group of 55 and above years.(Giftson Senapathy, 2012) in an meta analytical study on cervical cancer control and HPV Cervical cancer can largely be prevented through screening and removal of precursor lesions. New HPV vaccines will also help prevent HPV infection and the precancerous changes that lead to cervical cancer.

Scientific Reviews

Jean Damascene Makuza, et al (2015) conducted a cross sectional study to understand the prevalence and risk factors for cervical cancer and pre- cancerous lesions among 100 Rwandan women between 30 and 50 old undergoing screening. The study findings revealed that frequent screening procedure can reduce the prevalence of cervical cancer.

Roopali fotra (2015) conducted a study to evaluate the women's knowledge and its association with the socioeconomic with demographic profile of 200 women of Jammu region and the study revealed that most of them had limited knowledge about the susceptibility of cervical cancer and recommended that there is an urgent need to upgrade the health standard of women of Jammu region.

Aswathy Sreedevi, et al (2015) conducted epidemiological study to reveal the incidence of cervical cancer among 500 women in Kerala. The study findings revealed that incidence is greater among women of lower classes, those who were less educated, and those with a larger number of children. They recommended that research needs to be carried out in making HPV tests cheaper and accessible to the entire population through the national program for the epidemiological findings.

Xiuhua Guo, et al (2014) conducted a study to estimate the prevalence of cervical neoplasia and explore potential risk factors for HSIL among 180 womens aged 25–65 years living in Beijing were screened using the Thin Prep cytologic test and gynecologic examination. The study concluded that the prevalence of cervical neoplasia is relatively high for the women aged 46–55 years, those with a lower education level, those reporting bleeding after intercourse, and those affected by Trichomonas vaginalis infection, cervical inflammation and genital warts are at higher risk for HSIL.

Partha Basu, et al (2014) conducted population-based study to assess the knowledge, attitude and practices of women in relation to risk factors of cervical cancer, early detection of the disease and its prevention cervical cancer screening program with 192 women was launched in Maldives using visual inspection with acetic acid. The study concluded that awareness about risk factors and prevention of cervical cancer is limited among Maldivian women in spite of having high exposure to some of the risk factors. They recommended that universal literacy program in the country will help to improve the knowledge of cervical cancer prevention and can reduce the exposure to various risk factors in the younger population.

Shyamala Devi Manivannan (2014) conducted a quasi experimental study to explore husbands awareness on wives reproductive related symptoms leading to cervical cancer was assessed within 300 husbands in Tamil Nadu. The study concluded that

including husbands at all points of wives education would yield better results and suggested to discuss their sickness symptoms with their husbands. The recommendation given was Government policies need to be laid down to adopt these practices on a routine basis.

Asthana, et al (2014) conducted a cross sectional study to demonstrate the performance of visual aided cervical screening tests as against conventional Pap smear testing in a rural community setting of North India. They demonstrated that VIA screening as a feasible primary screening test for detecting high grade CIN and as to perform better when the Pap test is not feasible.

Ramachary, Velladurai (2013) conducted a prospective cohort study to quantify the effect of risk factors related to cervical cancer from a cohort of 30,958 women in rural setting in South India. Socio demographic and reproductive potential risk factors for cervical cancer were studied. This cohort study gives very strong evidence to say that education is the fundamental factor among the socio demographic and reproductive determinants of cervical cancer in low resource settings.

Geetha Kumari, et al (2012) conducted a retrospective study to determine the survival rates of cervical cancer patients and to evaluate the prognostic significance of clinicopathological factors. The study finding revealed that deaths due to cervical cancer are projected to rise over. Prevention of these deaths by adequate screening and treatment will contribute to the achievement of the Millennium development goals was their recommendation.

Swaminathan, et al (2012) conducted a age-specific incidence rates study by using the NORDPRED software to predict future cancer incidence rates and numbers of cancer cases for the 7 years of period in Chennai. The annual cancer burden predicted that cervical cancer would dislodge breast cancer as the top-ranking cancer in the state, cervical cancer will suppress lung, stomach and large bowel cancers, cervical cancer in ranking by 2016.

Gowry (2011) conducted the study to establish the prevalence of cervical cancer of the 270 subjects in a rural ethnically Muslim community in the state of Jammu and Kashmir. The study revealed that the presence of risk factors of high parity, early age of marriage and early childbirth after marriage, absence of cervical dysplasia and malignancy emphasizes the fact that socio-cultural factors, like absence of promiscuity and male circumcision, play an important role in the low prevalence of cancer cervix.

Tafurt Cardona, et al (2010) conducted a study to assess the prevalence of abnormal cytological information and their association with risk factors for uterine cervical neoplasia among 1735 females in Cauca, Colombia. The findings of the study indicated that having sexual intercourse at an early age, multiparity, using hormonal contraceptives and not having annual cytology screening were associated with abnormal cytology reports.

Jayalekshmi P, et al (2010) conducted an epidemiological study to determine the problem of cancer in women in Kerala. The study reveals that cervical cancer incidence rate in the rural areas was higher than in urban areas. This may be due to better education and also due to the changes in marital and other life style practices. And they recommended that the need for public education is highlighted and focusing on tobacco use control, self-examination and screening.

Grace A, Alfonsi, et al, (2010) conducted a prevalence study for cervical screening with a total of 9,706 women presenting in 26 clinics who received Pap smears and HR-HPV type-specific testing. The finding shows that there is lack of HPV vaccine and Pap smear screening as a strategy to reduce rates of cervical cancer.

SECTION2.2: SCIENTIFIC REVIEWS RELATED TO RISK FACTORS OF CERVICAL CANCER

Critical Reviews

Researchers (Biswas LN, Manna B, Maiti PK, Sengupta S, 2012) did a study to assess the **s**exual risk factors for cervical cancer among rural Indian women. The findings revealed that the risk factors found to be associated with cervical cancer were early age at first coitus, extramarital sex partners of women and the time interval since first exposure. Few researchers (Cooper D, Hoffman M, Carrara H, Rosenberg L, Kelly J,

2010) determined sexual activity and its relation to cervical cancer risk among South African women and they found that lower socio-economic status, alcohol intake, and being single or black, appear to be determinants of increased sexual activity.

Many researchers (Leonard, Paul, Nelson, 2012; Chukwuemeka Anthony, et al 2011) studies was enabled to study the prevalence of cervical squamous cell abnormalities and the risk factors associated with the disease. They revealed that there is high prevalence of cervical squamous cell abnormality.

Researchers (Sezer Kisa1, Lale Taskin, 2011) studied and determined the behavioral risk factors for vaginal infections among women with and without vaginal infections. Finally indicated that vaginal douching for hygienic reasons is an important risk factor and it will lead for cervical cancer doubles the risk of acquiring vaginitis.

Scientific Reviews

Michael, Ravi, Malavika J, Kiruthiga (2015) conducted a study to compare the associated risk factors contributing to cervical cancer among the married fisher women with and without cervical cancer. The study revealed that married fisher women living in the coastal areas are having many contributing risk factors such as tobacco usage, extra marital relationship, family history of cancer towards cervical cancer and they recommended that the issue has to be addressed seriously to prevent the morbidity and mortality of the married fisher women.

Nesrin, Nezihe K, Beji, Dilek (2011) conducted a case control study to investigate risk factors for cervical cancer among 380 Turkish women. The findings revealed that history of early age at first sexual activity and genital infection are risk factors for cervical cancer. Therefore, they recommend monogamy, late commencement of sexual activity, personal hygiene and use of barrier contraceptive methods help towards primary prevention.

Mahanta, et al (2011) conducted a case control study to assess the risk factors association with cancer cervix and cancer breast among 159 women at Assam. The study findings revealed that there is a strong evidence between the following risk factors such

as family income, age at marriage, age of the patients, number of children, age at first child birth and use of oral contraceptives.

Neriman Sogukpınar, Birsen Karaca, Hafize Oztürk, et al (2011) was conducted a cross sectional study to determine risk factors for cervical cancer for women in Izmir**.** The study determined that among the cervical cancer related risks vaginal delivery, vaginal lavage and having three or more pregnancies had the highest rates, while having sexual intercourse before 16 years of age and having more than one sexual partner constituted higher rates. Recommendation given was due to this reason, awareness of women has to be raised through education.

Aparijita, Narendra, Ramaram (2011) conducted cross sectional study to assess some determinants of cervical cancer among married rural women of reproductive age group. The findings of the study revealed that there was a high prevalence of some important risk factors associated with age, age of marriage, age of first child birth, parity family planning practices, genital hygiene and reproductive tract infections in the study population. They suggest that screening and early detection effort can be directed specifically to the group at risk.

Ombech Elizabeth A (2010) conducted a cross-sectional study on awareness of cervical cancer risk factors and practice of Pap smear testing through quantitative approach using self-administered questionnaires. Therefore the researcher found that due to lack of knowledge women do not go for screening despite knowing the benefits.

Sorans Soumya (2010) conducted a descriptive study to identify the women at risk for cancer cervix and their compliance to a screening test after an individual awareness programme with 150 womens in a selected village of Udupi District. The study result revealed that some contributing factors such as early marriage, extra marital relationship will cause for cervical cancer.

Diane Cooper, et al (2010) derived from a case-control study of hormonal contraceptives and cervical cancer risk with 1541 hospital controls in South Africa. They found that early sexual debut was associated with lower education, increased number of life time partners and alcohol use. Having a greater number of sexual partners was

associated with younger sexual debut, being black, single, higher educational levels and alcohol use. As expected, cervical cancer risk is associated with increased sexual activity.

Review of literature has helped the investigator to gain a broader knowledge on cervical cancer, to formulate the tool, conceptual framework and also it several as a guiding pathway to proceed with the study.

CHAPTER-3

RESEARCH METHODOLOGY

RESEARCH METHODOLOGY

This chapter describes the methodology adopted in this study to assess the risk factors of cervical cancer among married women in selected coastal region Thrikkunnapuzha, Alappuzha District, Kerala.

This phase of the study included selecting a research design, variables, setting of the study, population, sample, criteria for sample selection, sample size, sampling technique, development and description of the tool, content validity, pilot study, procedure for data collection and plan for data analysis.

3.1 RESEARCH APPROACH

The research approach used by the investigator was quantitative research approach, which helps to provide factual information about the variables under the study.

3.2 RESEARCH DESIGN

The design used in the study was non experimental descriptive research design which helps to provide factual information about the variables. The aim of the study was to assess the risk factors of cervical cancer among married women in coastal region.

3.3 VARIABLES

3.3.1 Demographic Variables

The demographic variables in the study was age, religion, education, family income, occupation & marital status

3.3.2 Extraneous Variables

The extraneous variables were personal factors, dietary factors, menstrual hygiene factors, perineal hygiene factors, sexual factors, family welfare practices and gynecological factors.

3.4 SETTING OF THE STUDY

The research study was conducted at the coastal region of Thrikkunnapuzha Alappuzha District, Kerala. It covers about 26,790 coastal women in which 9850 women

with the age group of 20-50 years. Majority of women are netting the rope and their husbands are fisherman. The women work under the daily wages.

3.5 POPULATION

3.5.1 Target population

The target population for the study included all married women who were residing at coastal region

3.5.2 Accessible population

Accessible population for the study included married women who were residing at selected coastal region of Thrikkunnapuzha, Alappuzha District, Kerala.

3.6 SAMPLE

The study sample comprised of the married women who fulfilled the inclusion criteria.

3.7 SAMPLE SIZE

The sample size consisted of 100 married women in the age group of 20 to 50 years

3.8 SAMLPING TECHNIQUE

Non probability purposive sampling technique was used for the selection of 100 married coastal women as samples for the study

3.9 CRITERIA FOR SAMPLE SELECTION

3.9.1 Inclusion criteria

Married women who can understand and talk Malayalam

3.9.2 Exclusion criteria

Married women

1. Who were not willing to participate in the study
2. Who have been diagnosed as cervical cancer and on treatment

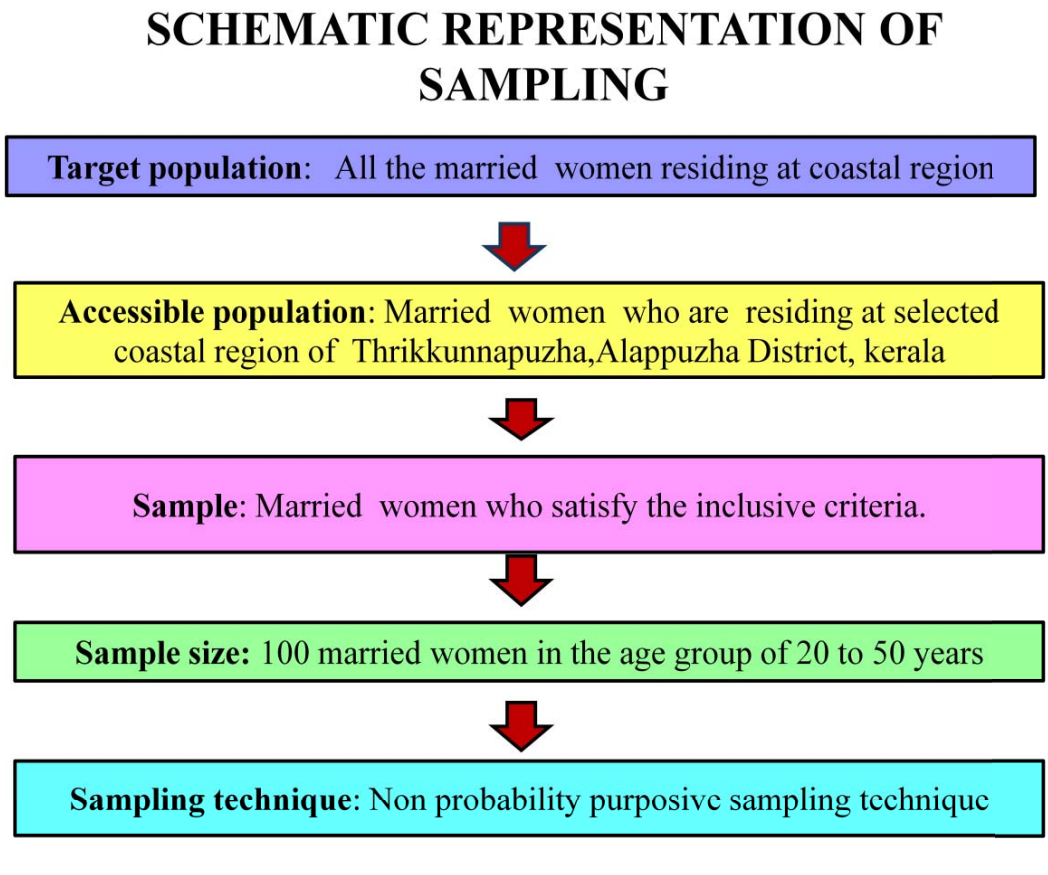

Fig.3.5.1: Schematic representation of Sampling

3.10. DEVELOPMENT AND DESCRIPTION OF THE TOOL

After an extensive review of the literature, discussion with the experts and with the investigator personal and professional experience. A structured interview schedule was developed to assess the risk factor of cervical cancer among married women in the coastal region.

The tool constructed in the study was divided into two parts.

3.10.1. DATA COLLECTION TOOL

This consisted of 2 sections

Section A: Demographic data

Consisted of demographic variables which included age, religion, educational status of women, educational status of husband, monthly family income, occupation of wife, husband occupation and marital status.

Section B-Structured Interview Schedule

A structured interview schedule was developed to assess the risk factors of cervical cancer among married women in the coastal region. It comprised of 26 questions about personal factors such as Tobacco usage and alcohol, menstrual and perineal hygiene factors such as type of sanitary napkin, change of sanitary napkin, drying of used cloth napkin and washing of perineum, sexual factors such as vaginal douching after coitus ,frequency of sexual intercourse, extra marital relationship , pre marital sex and age of first sexual debut, family welfare and gynecological factors such as use of temporary family planning methods , intra uterine device usage (copper T),problem in uterus , vaginal discharge , post coital bleeding and husband having problem

3.11 CONTENT VALIDITY

The content validity of the data collection and structured interview schedule tool was ascertained from the experts' opinion in the following field of expertise.

- 2 Obstetrician and Gynecologist
- 3 Nursing experts

Modifications were made as per the expert suggestion and incorporated in the tool. All the experts suggested that family history of cancer has to divide into paternal and maternal which were incorporated in the tool.

3.12 ETHICAL CONSIDERATION

The research study was approved by Institutional Ethics Review Board (IERB), held on November-2013 by International Centre for Collaborative Research (ICCR), Omayal Achi College of Nursing.

The ethical principles followed in the study were

A. BENEFICIENCE

The investigator followed the fundamental ethical principle of beneficence by adhering to

- **The right to freedom from harm and discomfort**

The study was beneficial for the participants as it helps to identify the risk factors of cervical cancer and inturn promote the health status.

- **The right to protection from exploitation**

The investigator explained the procedure and nature of the study to the participants and ensured that none of the participants would be exploited.

B. RESPECT FOR HUMAN DIGNITY

The investigator followed the second ethical principle of respect for human dignity. It includes the right to self-determination and the right to self –disclosure.

- **The Right to Self-determination**

The investigator gave full freedom to the participants to decide voluntarily whether to participate in the study or to withdraw from the study and the right to ask questions.

- **The Right to Full Disclosure**

The researcher has fully described the nature of the study, the person's right to refuse participation and the researcher's responsibilities based on which both oral and written informed consent was obtained from the participants.

C. JUSTICE

The researcher adhered to the third ethical principle of justice, it includes participants right to fair treatment and right to privacy.

- **Right to Fair Treatment**

The researcher selected the study participants based on the research requirements, no vulnerable or compromised candidates were selected as study samples.

- **Right to privacy**

The researcher maintained the participant's privacy throughout the study.

D.CONFIDENTIALITY

The researcher maintained confidentiality of the data provided by the study samples.

3.13 RELIABILITY OF THE TOOL

The reliability of the tool was established by inter rater method for risk assessment tool with "r'" value of 0.8. It was found that the tool was reliable and practicable to implement in the main study.

3.14 PILOT STUDY

Pilot study is the trial run for the main study, The refined tool was used for pilot study to test feasibility and practicability.

After getting ethical committee clearance from ICCR, formal permission from Principal, Omayal Achi College of Nursing, Ward member of Thrikkunnapuzha Panchayath,. Kerala. The pilot study was conducted in the month of May 2015 Thrikkunnapuzha Panchayath,. Kerala. The investigator conducted the pilot study by selecting 25 married costal women who fulfilled the sample selection criteria by non probability purposive sampling technique to select the samples.

The investigator gave a brief introduction about self and the purpose of the study to the coastal women. The researcher assured the participants regarding the confidentiality of their information. After obtaining verbal and written informed consent for willingness to participate in the study structured interview schedule was used to assess the risk factors of cervical cancer. The investigator spent 20 to 30 minutes for each participants to collect the data.

The analysis of the data and the result of pilot study gave the evidence that the tool were feasible and practicable to implement the main study.

3.15 PROCEDURE FOR DATA COLLECTION

The investigator obtained permission from the (ICCR) and ethical clearance to proceed with main study. A formal permission was obtained from the Principal, Omayal

Achi College of Nursing, and from the Ward member of Thrikkunnapuzha panchayath, Alappuzha district, Kerala

The investigator selected 100 samples, who fulfilled the sample selection criteria by using non-probability purposive sampling technique. The investigator obtained verbal and written informed consent from the samples after introducing herself and explained the purpose of the study. The investigator went to the participants residential places and made them to sit comfortably in a well ventilated room. The investigator used structured interview schedule to assess the risk factors of cervical cancer which took about 15 to 20 minutes. The confidentiality regarding the data was assured to win their cooperation during data collection. After data collection, their doubts were clarified and the pamphlets were distributed regarding awareness of cervical cancer. The data collection for the study was collected within the period of four weeks which was adhered by the ethical principles throughout the study.

3.16 PLAN FOR DATA ANALYSIS

Data collected was analyzed by using both descriptive and inferential statistics

3.16.1 Descriptive Statistics

Frequency and percentage distribution was used to analyze the demographic variables of married women in coastal region.

3.16.2 Inferential Statistics

Chi-square was used to assess the risk factors of cervical cancer with selected demographic variables among married coastal women.

CHAPTER-4

DATA ANALYSIS AND INTERPRETATION

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the analysis and interpretation of data collected from 100 married women at selected coastal region Thrikkunnapuzha, Alappuzha Districts, Kerala, to assess the risk factors of cervical cancer among married women.

The data collected for the study was grouped and analyzed as per the objectives set for the study. The findings based on the descriptive and inferential statistical analysis are presented under the following sections.

ORGANIZATION OF DATA

Section 4.1: Description of the demographic variables of the married women.

Section 4.2: Assessment of risk factors of cervical cancer among married women.

Section 4.3: Association of selected demographic variables with the risk factors of cervical cancer among married women.

SECTION 4.1: DESCRIPTION OF DEMOGRAPHIC VARIABLES OF THE MARRIED WOMEN

Table 4.1.1: Frequency and percentage distribution of the demographic variables married women with respect to age, religion and education

N= 100

S.No.	Demographic variables	No.	%
1.	**Age in years**		
	20-25	**9**	**9.0**
	26-30	12	12.0
	31-35	12	12.0
	36-40	29	29.0
	41-45	24	24.0
	46-50	14	14.0
2.	**Religion**		
	Hindu	**96**	**96.0**
	Muslim	3	3.0
	Christian	1	1.0
3.	**Educational status of women**		
	Graduate or post graduate	12	12.0
	Intermediate or post high school	**49**	**49.0**
	High school certificate	23	23.0
	Middle school certificate	12	12.0
	Primary school certificate	4	4.0

The above table 4.1.1 depicts the frequency and percentage distribution of demographic variables of the married women with respect to age, religion and educational status of women. With regard to age in years, 29(29%) were between the age of 36-40 years, 96(96%) of them were Hindu, 49(49%) of them were intermediate education.

Table 4.1.2: Frequency and percentage distribution of the demographic variables of married women with respect to educational status of husband and family monthly income

N=100

S.No.	Demographic variables	No.	%
1.	**Educational status of the husband**		
	Graduate or post graduate	6	6.0
	Intermediate or Post high school	24	24.0
	High school certificate	**55**	**55.0**
	Middle school certificate	12	12.0
	Primary school certificate	3	3.0
2.	**Family monthly income**		
	13495-17999	2	2.0
	8989-13494	1	1.0
	5387-8988	17	17.0
	1803-5386	**80**	**80.0**

The above table 4.1.2 depicts the frequency and percentage distribution of demographic variables of the married women with educational status of husband and family monthly income.

With regard to educational status of the husband, 55(55%) of their husband had high schooling, 80(80%) of them were earning an income of Rs. 1803-5386.

Table 4.1.3: Frequency and percentage distribution of the demographic variables of married women with occupation of wife, occupation of husband and marital status

N=100

S.No.	Demographic variables	No.	%
1.	**Occupation of wife**		
	Working	**55**	**55.0**
	Not working	45	45.0
1.1	**If Working, type of work?**		
	Fish exporting factory	-	-
	Garments exporting factory	-	-
	Vendors	-	-
	Knitting ropes	**55**	**55.0**
1.2	**If Not working, What is the House –Chores?**		
	Preserving Fish	-	-
	Selling fish	-	-
	House-hold work	45	45.0
2.	**Occupation of Husband**		
	Catching fish	**83**	**83.0**
	Selling fish	4	4.0
	Fish export	1	1.0
	Not working	2	2.0
	Others (Bakery)	10	10.0
3.	**Marital status**		
	Married	**100**	**100.0**
	Widowed	-	-
	Separated	-	-
	Divorced	**-**	**-**

The above table 4.1.3 depicts the frequency and percentage distribution of demographic variables of the married women, 55 (55%) of them were working in the field of knitting ropes, 83(83%) of their husband were fisherman, and all are married.

SECTION 4.2: ASSESSMENT OF RISK FACTORS FOR CERVICAL CANCER AMONG MARRIED WOMEN

Table 4.2.1: Frequency and percentage distribution of personal risk factors of the married women

N=100

S.No.	Personal factors	No.	%
1.	**Tobacco usage**		
	Yes	-	-
	No	100	100.0
2.	**Alcohol usage**		
	Yes	-	-
	No	100	100.0
3	**Dietary pattern**		
	Vegetarian	1	1
	Ova vegetarian	-	-
	Non vegetarian	**99**	**99.0**
4.	**Shellfish eating**		
	Yes	**71**	**71.0**
	No	29	29.0
4.1	**If yes, frequency of eating**		
	Once in a month	3	3.0
	Once in 2 months	2	2.0
	Once in 3 months	13	13.0
	Once in 4 months	1	1.0
	Once in 6 months	**41**	**41.0**
	Once in a year	11	11.0

The above table 4.2.1 depicts the frequency and percentage distribution of personal factors of married women with tobacco usage, alcohol usage, dietary pattern and shellfish eating.

With regard to tobacco usage, alcohol usage, none of them had the habit, 99(99%) of them were non vegetarian,71(71%)of them were eating shellfish,41(41%) of them were consuming shellfish once in 6 months

Table 4.2.2: Frequency and percentage distribution of the menstrual and perineal hygiene factors of married women

N=100

S.No.	Menstrual and Perineal Hygiene Factor	No.	%
1.	**Age at menarche**		
	10-12	**10**	**10.0**
	13-15	87	87.0
	16-18	3	3.0
2.	**Regularity of Menstrual cycle**		
	Regular	**88**	**88.0**
	Irregular	12	12.0
3.	**Type of Sanitary Napkin**		
	Commercial pad	67	67.0
	Cloth	**33**	**33.0**
4.	**Change of Sanitary Napkin**		
	Once in a day	-	-
	Twice a day	**20**	**20.0**
	Thrice a day	**71**	**71.0**
	More than three times	9	9.0
5.	**Drying of Napkin**		
	Under the Sun	**33**	**33.0**
	Inside the Bathroom	-	-
	Throw in Dust Bin	-	-
6	**Washing of Perineum**		
	After urination	-	-
	After defecation	-	-
	Both one & two	**100**	**100.0**

The above table 4.2.2 depicts the frequency and percentage distribution of the menstrual and perineal hygiene factors with respect to age at menarche, regularity of menstrual cycle, type of sanitary napkin, change of sanitary napkin, drying of napkin, washing of perineum.

With regard to age at menarche, 10(10%) of them attained menarche between 10-12 years, 88(88%) of them had regular menstrual cycle, 67(67%) of them were using commercial pad, 33(33%) of them were using cloth as sanitary napkin during menstrual cycle, 20(20%) of them change the sanitary napkin twice in a day, 33(33%) of them dry the napkin under the sun, all of them wash the perineum both after urination and defecation.

Table 4.2.3: Frequency and percentage distribution of the sexual factors of the married women

N=100

S.No.	Sexual Factors	No.	%
1	**Age of first Sexual Debut**		
	≤15yrs	-	-
	16-20yrs	**32**	**32.0**
	21-25 yrs	64	64.0
	26-30 yrs	4	4.0
2	**Frequency of Coitus**		
	Daily	-	-
	Weekly thrice	**17**	**17.0**
	Weekly twice	56	56.0
	Weekly once	14	14.0
	Once in while	13	13.0
3	**Vaginal Douching after Coitus**		
	Yes	99	99.0
	No	**1**	**1.0**
4	**Extra Marital Relationship**		
	Yes	**3**	**3.0**
	No	97	97.0
4.1	**If yes, No. of Partners (N=3)**		
	One person	**3**	**3.0**
	Two person	-	-
	Here person	-	-
	More than three	-	-

The above table 4.2.3 depicts the frequency and percentage distribution of sexual factors among married women 32(32%) of them had first sexual debut between 16-20 years of age, 17(17%) of them had coitus thrice in a week, 1(1%) of them do not douche the vagina after coitus, 3% had extra marital relationship.

Table 4.2.4: Frequency and percentage of the family welfare practices and Gynecological problems among married women

N=100

S.No.	Family welfare practices and Gynecological factors	N	%
1	**Age at Marriage**		
	17-21	**57**	**57.0**
	22-24	39	39.0
	25-28	4	4.0
2.	**Duration of Marital life in years**		
	1-10	25	25.0
	11-20	**50**	**50.0**
	21-30	25	25.0
3.	**Number of Birth given**	1	1.0
	Nil		
	1	17	17.0
	2	72	72.0
	3 and above	**9**	**9.0**
4.	**Use any family planning methods**		
	Yes	**63**	**63.0**
	No	37	37.0
4.1	**If Yes, Type of Method**		
	Birth pills	-	-
	Copper T	**52**	**52.0**
	Calendar Method	4	4.0
	Condom	7	7.0
4.2	**If copper T duration of usage**		
	5 years	1	1.0
	10 years	**51**	**51.0**

The above table 4.2.4 depicts the frequency and percentage distribution of the family welfare practices and gynecological problems among married women.

With regard to 57(57%) of them got married between 17-21 years of age, 50(50%) of them were between 11-20 years of marital life, 9(9%) of them had given birth 3 and above children, 63(63%) of them were using family planning methods, 52(52%) of them were using copper T, in which 51% of them were using past 10 years.

Table 4.2.5: Frequency and Percentage of the family welfare practices and Gynaecological problems among married women

N=100

S.No.	Family welfare practices and gynecological problems	N	%
1.	**Painful bleeding after coitus**		
	Yes	**1**	**1.0**
	No	99	99.0
2.	**Genital problems(Husband)**		
	Yes	**1**	**1.0**
	No	99	99.0
2.1	**If yes, Specify**		
	Ulcer in penis	-	-
	Discharge in penis	-	-
	Rashes or ulcer in penis	-	-
	Others(Itching penis)	**1**	**1.0**
3	**Genital Problems (Women)**		
	Yes	**16**	**16.0**
	No	84	84.0
3.1	**If yes, Specify**,		
	Vaginal discharge	**15**	**15.0**
	Utero vaginal prolapse	1	1.0
4.	**Family history of cancer**		
	Yes	**25**	**25.0**
	No	75	75.0
4.1	**If yes**		
	Maternal	10	10.0
	Paternal	**15**	**15.0**

The above table 4.2.5 depicts the frequency and percentage distribution of the family welfare and gynecological problems with respect to painful bleeding after coitus, genital problem(Husband & women),problems in uterus and family history of cancer.

With regard to painful bleeding after coitus, 1(1%) of them had complaints of post coital bleeding, 1(1%) of husband had genital problem, 16(16%) of women had genital problem, 25(25%) of them had family history of cancer, in that 15(15%) of them were paternal 10(10%) were maternal.

SECTION 4.3: ASSOCIATION OF DEMOGRAPHIC VARIABLES WITH THE RISK FACTORS AMONG MARRIED WOMEN

Table 4.3.1: Association of demographic variables with Dietary pattern

N=100

S.No.	Demographic Variable	Dietary pattern		χ^2 / F	Sig.
		Vegetarian	Non Vegetarian		
1	**Educational status of Women**				
	Graduate or Post graduate	0	12	**8.769**	**.010****
	Intermediate or Post high school	0	49		
	High school certificate	0	23		
	Middle school certificate	0	12		
	Primary school certificate	1	3		
2	**Educational status of husband**				
	Graduate or Post graduate	0	6	**10.167**	**.030***
	Intermediate or Post high school	0	24		
	High school certificate	0	55		
	Middle school certificate	0	12		
	Primary school certificate	1	2		

****-High Statistical significance at p<0.01 level, *- Statistical Significance at p<0.05 level.**

The table 4.3.1 shows that the demographic variable educational status of the women was found to be high statistically significant, educational status of husband was found to be statistical significant association with dietary pattern at the level of $p<0.01$, $p<0.05$ respectively.

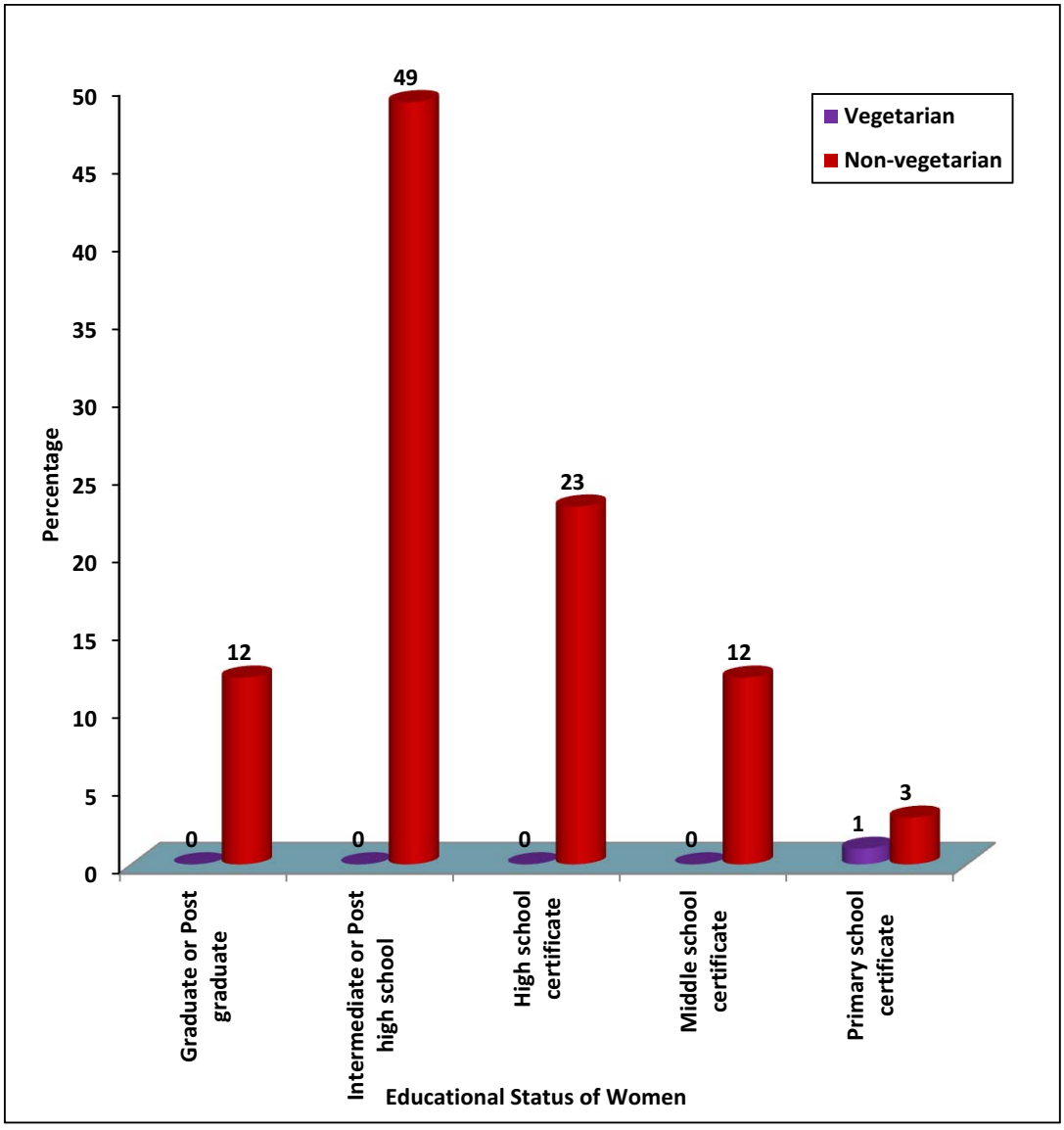

Fig.4.3.1: Association of educational status of women with Dietary pattern

The fig.4.3.1 shows that the demographic variable educational status of the women was found to be high statistically significant association with dietary pattern at the level of $p<0.01$.

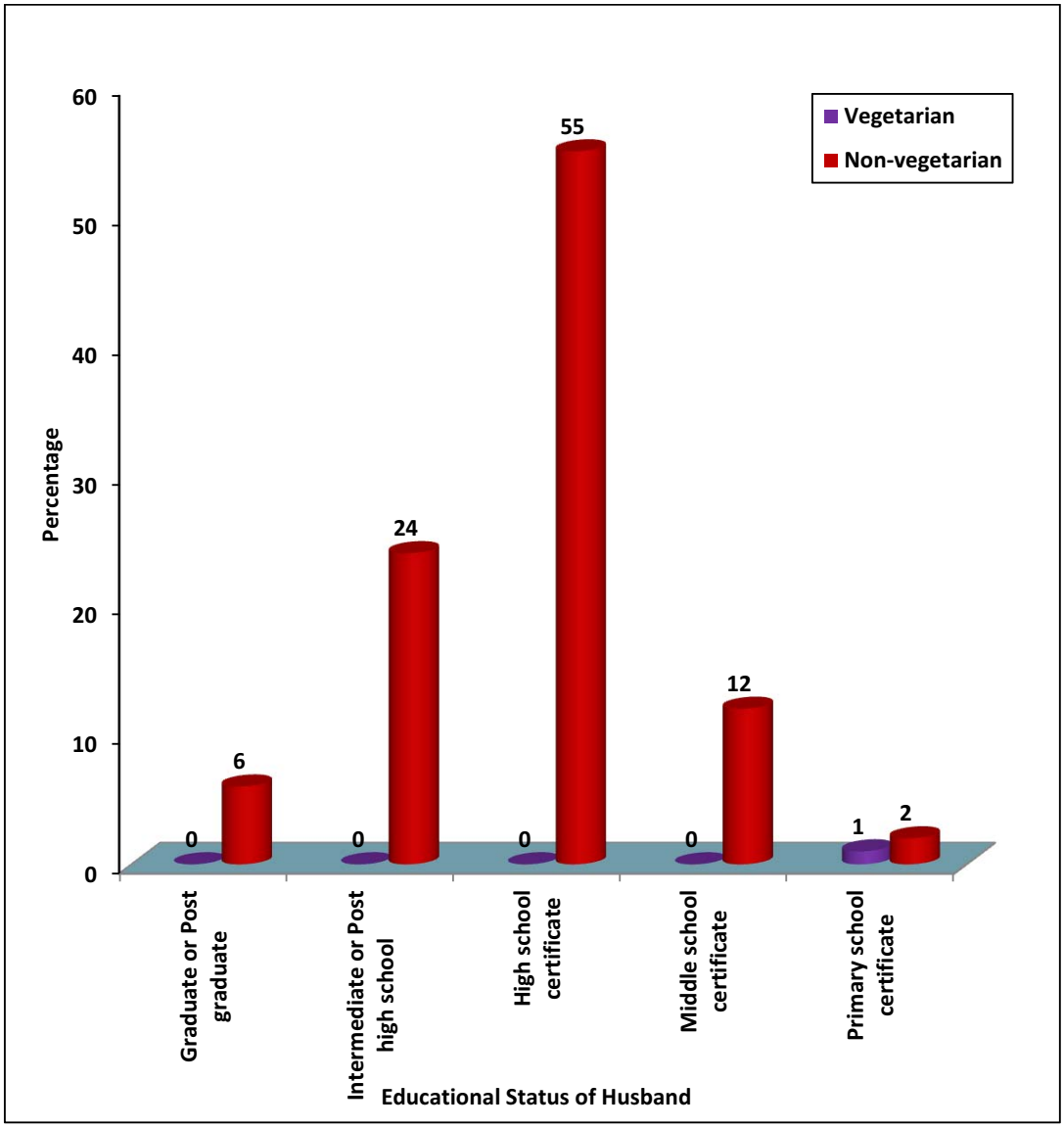

Fig.4.3.2: Association of educational status of husband with Dietary pattern

The fig.4.3.1 shows that the demographic variable educational status of husband was found to be statistical significant association with dietary pattern at the level of $p<0.05$.

Table 4.3.2: Association of demographic variables with Age at Menarche

N=100

S.No.	Demographic Variable	Age at Menarche (years)			χ^2 /F	Sig.
		10-12	13-15	16-18		
1	**Age of Women**					
	20-25 years	4	5	0	**17.652**	**.005****
	26-30 years	1	11	0		
	31-35 years	0	12	0		
	36-40 years	5	**24**	0		
	41-45 years	0	22	2		
	46 – 50 years	0	13	1		
2	**Educational status of husband**					
	Graduate or Post graduate	1	5	0	**13.165**	**.05***
	Intermediate or Post high school	1	23	0		
	High school certificate	4	**49**	2		
	Middle school certificate	4	8	0		
	Primary school certificate	0	2	1		

- Statistical Significance at p<0.05 level, *-High Statistical significance at p<0.01 level**

The table 4.3.2 shows that the demographic variable age of women in years were found to be high statistically significant, educational status of husband were found to be statistical significant association with age at menarche at the level of $p<0.01$, $p<0.05$ respectively.

Table 4.3.3: Association of demographic variables with Type of Sanitary Napkin

N=100

S.No.	Demographic Variable	Type of Sanitary Napkin		χ^2 / F	Sig.
		Commercial pad	Cloth		
1	**Age of Women**				
	20-25 years	7	2	**11.708**	**.034***
	26-30 years	12	0		
	31-35 years	6	6		
	36-40 years	**18**	**11**		
	41-45 years	13	11		
	46 – 50 years	11	3		
2	**Educational status of Women**				
	Graduate or Post graduate	12	0	**15.898**	**.001*****
	Intermediate or Post high school	**33**	**16**		
	High school certificate	17	6		
	Middle school certificate	4	8		
	Primary school certificate	1	3		
3	**Educational status of husband**				
	Graduate or Post graduate	6	0	**12.759**	**.007****
	Intermediate or Post high school	19	5		
	High school certificate	**37**	**18**		
	Middle school certificate	5	7		
	Primary school certificate	0	3		

***-High Statistical significance at p<0.001 level, **-High Statistical significance at p<0.01 level, *- Statistical Significance at p<0.05 level.**

The table 4.3.3 shows that the demographic variables age of women were found to have statistically significant, educational status of women and educational status of husband were found to have high statistically significant association with the type of sanitary napkin at the level of $p<0.05$,$p<0.001$ and $p<0.01$ respectively.

Table 4.3.4: Association of demographic variables with change of sanitary napkin

N=100

S.No	Demographic Variable	Change of sanitary napkin			χ^2 / F	Sig.
		Twice a day	Thrice a day	More than three times		
1	**Monthly family income in Rs**					
	Rs.13495-17999	0	0	2	**13.182**	**.01****
	Rs.8989-13494	0	1	0		
	Rs.5387-8988	1	15	1		
	Rs.1803-5386	**19**	**55**	**6**		
2	**Occupation of wife**					
	Working	8	**47**	1	**12.303**	**.002****
	Not working	**12**	24	**8**		

*- Statistical Significance at p<0.05 level, **-High Statistical significance at p<0.01 level

The table 4.3.4 shows that the demographic variables family monthly income and occupation of wife were found to be high statistically significant association with change of sanitary napkin at the level of $p<0.01$ respectively

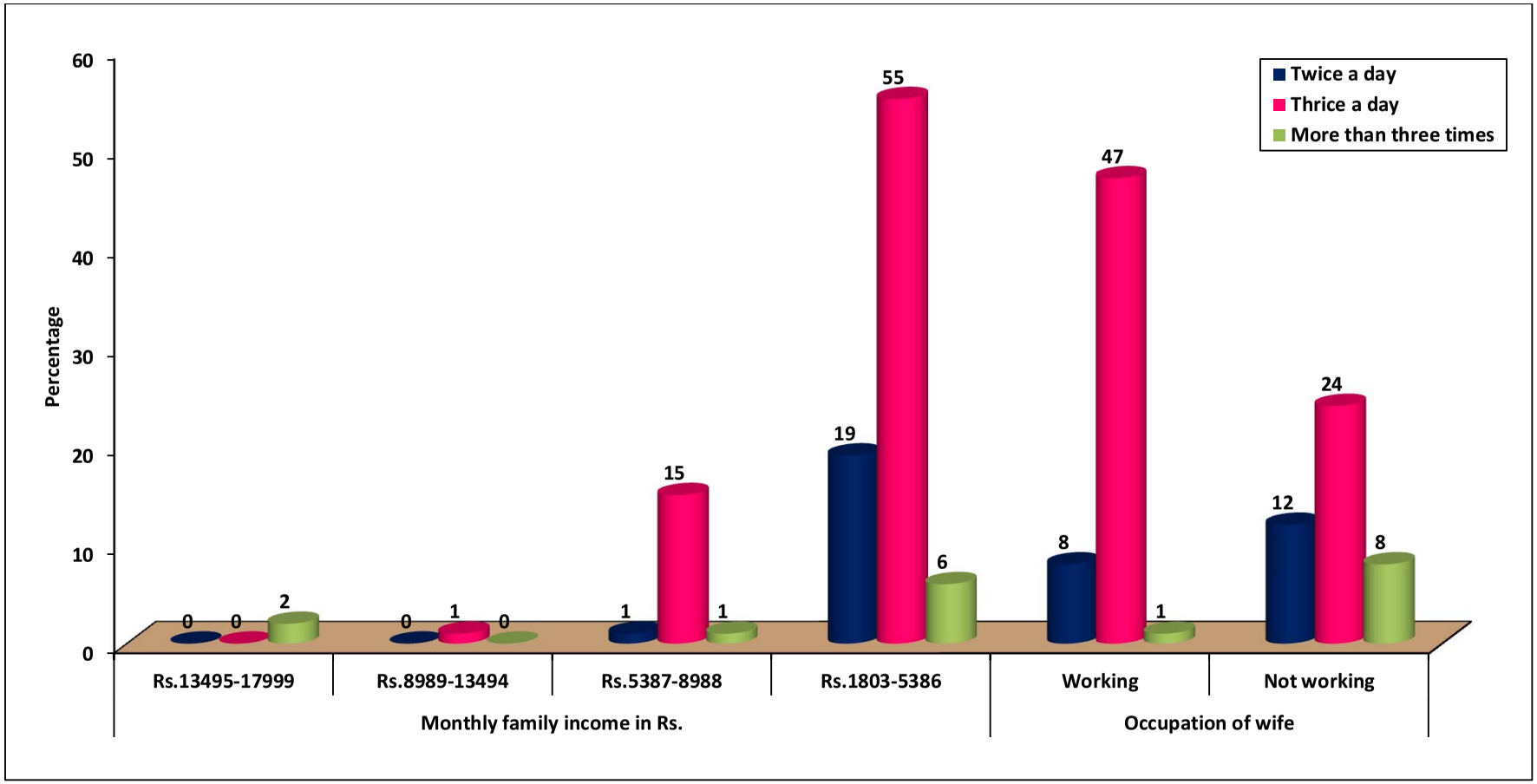

Fig.4.3.4: Association of monthly family income and occupation of wife with change of sanitary napkin among married women

The fig.4.3.4 shows that the demographic variables family monthly income and occupation of wife were found to be high statistically significant association with change of sanitary napkin at the level of $p<0.01$ respectively

Table 4.3.5: Association of demographic variables with frequency of coitus

N=100

S.No	Demographic Variable	Frequency of Coitus				χ^2 / F	Sig.
		weekly thrice	Weekly twice	Weekly once	Once in while		
1	**Age of Women**						
	20-25 years	8	0	0	1	**69.231**	**.000*****
	26-30 years	7	5	0	0		
	31-35 years	0	7	3	2		
	36-40 years	1	**22**	5	1		
	41-45 years	0	15	3	6		
	46 – 50 years	1	7	3	3		
2	**Religion**						
	Hindu	15	**56**	14	11	**11.727**	**.019***
	Muslim	2	0	0	1		
	Christian	0	0	0	1		
3	**Educational status of husband**						
	Graduate or Post graduate	2	3	0	1	**17.458**	**.05***
	Intermediate or Post high school	7	14	3	0		
	High school certificate	5	**33**	8	9		
	Middle school certificate	3	5	3	1		
	Primary school certificate	0	1	0	2		
4	**Monthly family income in Rs**						
	Rs.13495-17999	2	0	0	0	**13.440**	**.035***
	Rs.8989-13494	1	0	0	0		
	Rs.5387-8988	4	11	1	1		
	Rs.1803-5386	10	45	13	12		
5	**Husband occupation**						
	Catching Fish	7	51	14	11	**30.568**	**.000*****
	Selling Fish	1	2	0	1		
	Fish Export	1	0	0	0		
	Not working	0	2	0	0		
	Others	8	1	8	1		

***- High statistical Significance at p<0.001, **-High Statistical significance at p<0.01 level, *- Statistical Significance at p<0.05 level

The table 4.3.5 shows that demographic variables age of women in years and husband occupation were found to be high statistically significant religion ,educational status of husband, monthly family income were found to be statistically significant association with frequency of coitus at the level of $p<0.001$,$p<0.05$ respectively.

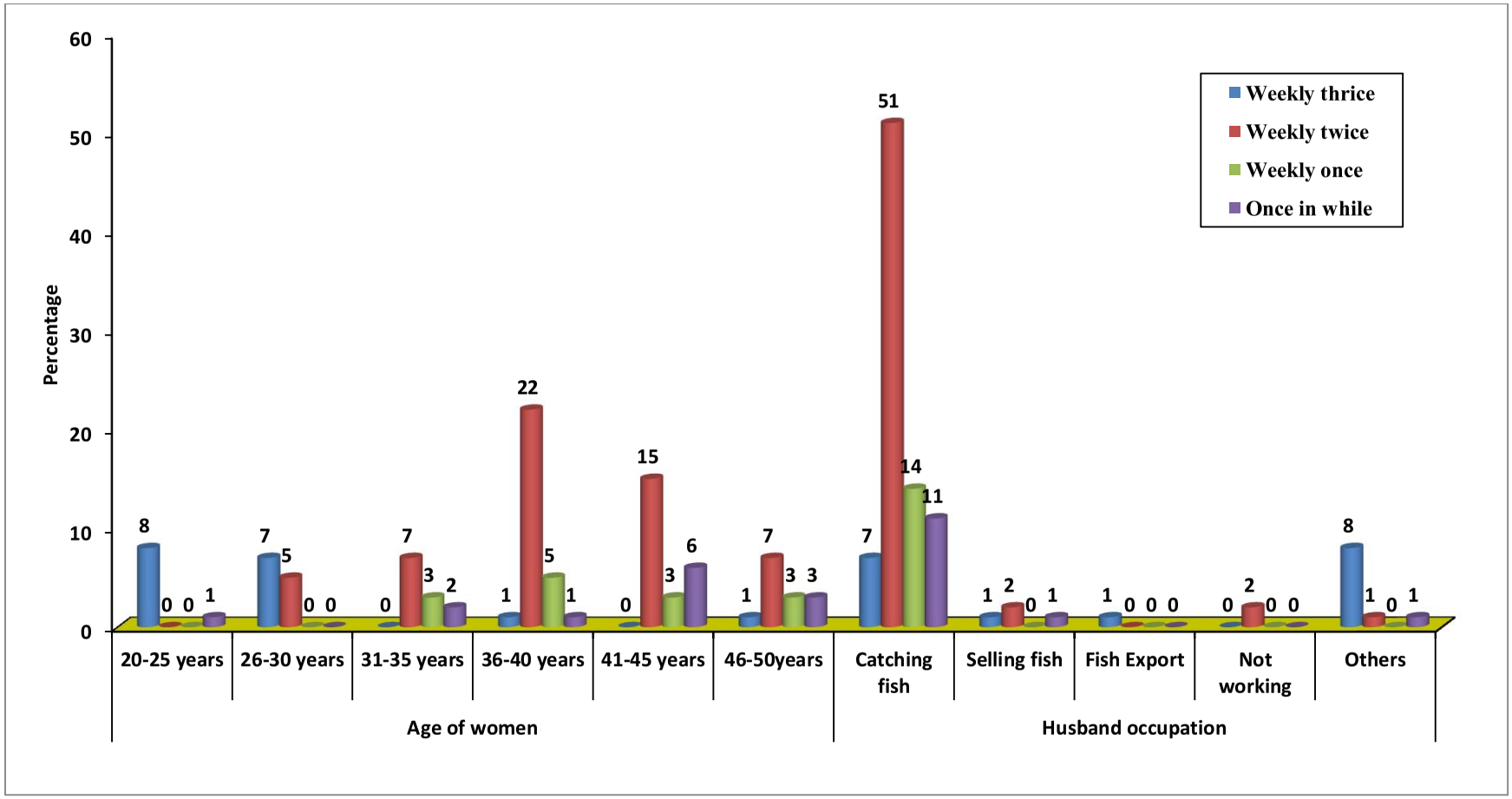

Fig.4.3.5: Association of age of women and husband occupation with frequency of coitus among married women

The fig.4.3.5 shows that demographic variables age of women in years and husband occupation were found to be high statistically significant association with frequency of coitus at the level of $p<0.001$.

Table 4.3.6: Association of demographic variables with extra marital relationship

N=100

S.No.	Demographic Variable	Extra Marital Relationship		χ^2 / F	Sig.
		Yes	No		
1	**Educational status of husband**				
	Graduate or Post graduate	0	6	**11.708**	**.034***
	Intermediate or Post high school	0	24		
	High school certificate	1	**54**		
	Middle school certificate	1	11		
	Primary school certificate	1	2		

***- Statistical Significance at p<0.05 level**

The table 4.3.6 shows that demographic variable educational status of husband were found to have statistically significant association with extra marital relationship at the level of $p<0.05$.

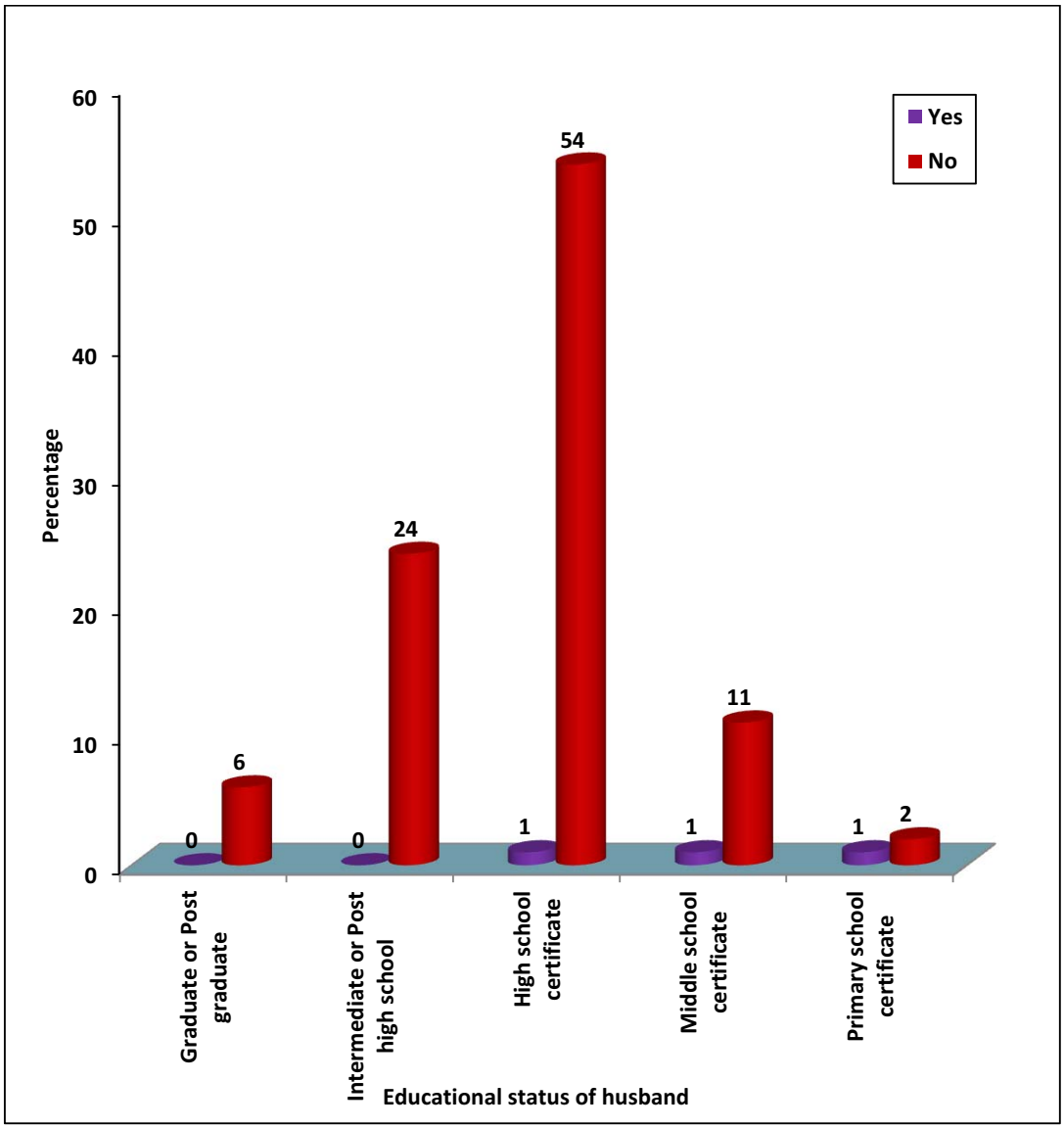

Fig.4.3.6: Association of educational status of husband with extra marital relationship among married women

Table 4.3.7: Association of demographic variables with number of birth given

N=100

S.No	Demographic Variable	Number of Birth Given				χ^2 / F	Sig.
		Nil	1	2	3 & above		
1	**Age of Women**						
	20-25 years	0	5	4	0	**27.578**	**.002****
	26-30 years	1	5	6	0		
	31-35 years	0	3	8	1		
	36-40 years	0	1	**26**	2		
	41-45 years	0	1	19	4		
	46 – 50 years	1	2	9	2		
2	**Educational status of Women**						
	Graduate or Post graduate	0	6	6	0	**17.605**	**.05***
	Intermediate or Post high school	1	8	**37**	3		
	High school certificate	0	2	19	2		
	Middle school certificate	1	1	7	3		
	Primary school certificate	0	0	3	1		
3	**Educational status of husband**						
	Graduate or Post graduate	0	2	4	0	**16.657**	**.018***
	Intermediate or Post high school	1	4	18	1		
	High school certificate	0	10	**41**	4		
	Middle school certificate	0	1	7	4		
	Primary school certificate	1	0	2	0		
4	**Monthly family income in Rs**						
	Rs.13495-17999	0	2	0	0	**21.113**	**.008****
	Rs.8989-13494	1	0	0	0		
	Rs.5387-8988	0	4	13	0		
	Rs.1803-5386	1	11	**59**	9		
5	**Husband occupation**						
	Catching Fish	2	10	**65**	6	**26.589**	**.005****
	Selling Fish	0	0	3	1		
	Fish Export	0	1	0	0		
	Not working	0	0	1	1		
	Others	0	6	3	1		

***-High Statistical significance at p<0.001 level, **-High Statistical significance at p<0.01 level, *- Statistical Significance at p<0.05 level.

The table 4.3.7 shows that demographic variable age of women in years, family monthly income and occupation of husband were found to have high statistically significant educational status of women educational status of husband , were found to have statistically significant association with the number of birth given at the level of $p<0.01$, $p<0.05$ respectively.

N=100

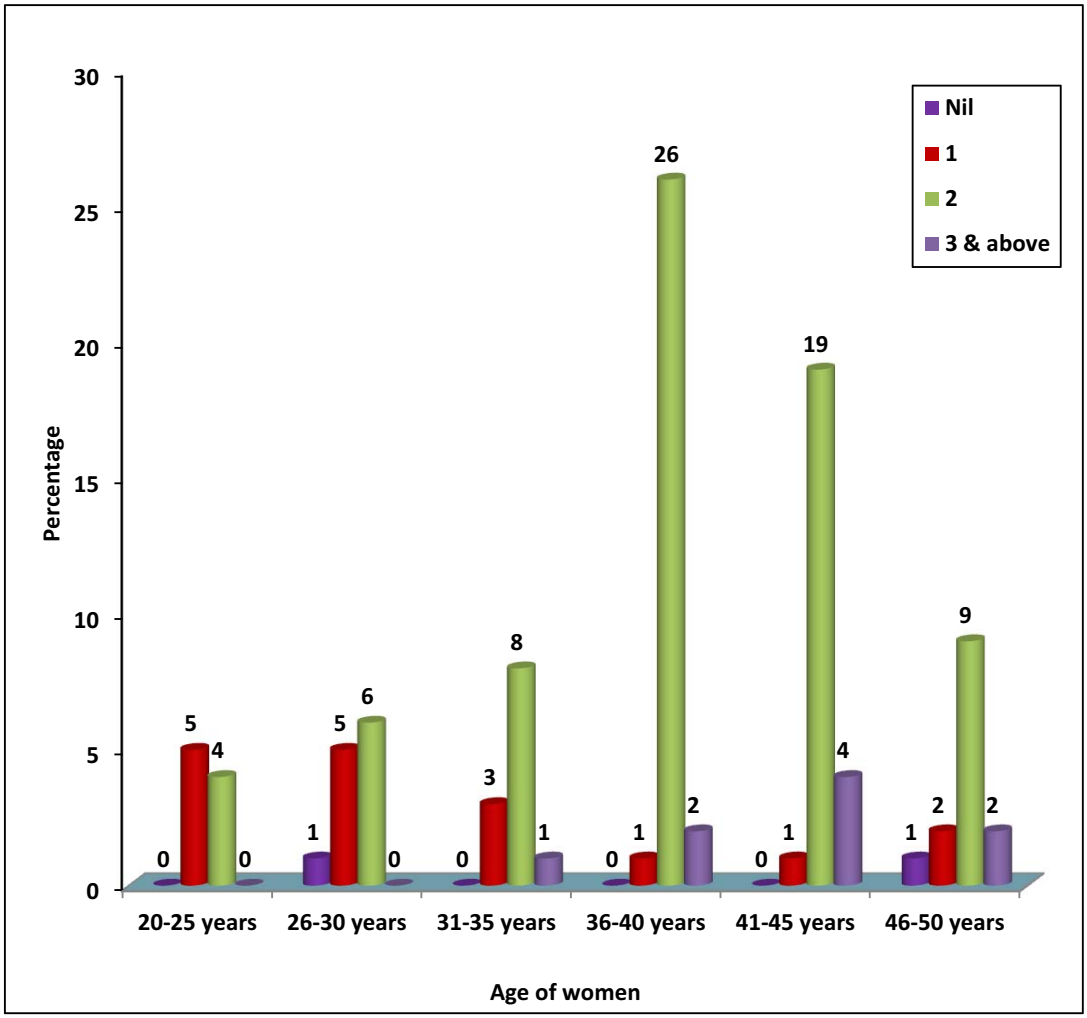

Fig.4.3.7: Association of age of women with number of birth given among married women

The fig.4.3.7 shows that demographic variable age of women in year were found to have high statistically significant association with the number of birth given at the level o of $p<0.01$

Table 4.3.8: Association of demographic variables with use of any temporary /spacing methods of family planning (since marriage)

N=100

S.No.	Demographic Variable	Use of any Temporary /spacing methods of family planning (since marriage)		χ^2 / F	Sig.
		Yes	No		
1	**Age of Women**				
	20-25 years	4	5	**11.491**	**.038***
	26-30 years	5	7		
	31-35 years	7	5		
	36-40 years	**21**	8		
	41-45 years	13	11		
	46 – 50 years	13	1		
2	**Monthly family income in Rs**				
	Rs.13495-17999	0	2	**9.643**	**.006****
	Rs.8989-13494	0	1		
	Rs.5387-8988	15	2		
	Rs.1803-5386	**48**	32		

*** - Statistical Significance at p<0.05 level, ** -High Statistical significance at p<0.01**

The table 4.3.8 shows that demographic variable age of women were found to have statistically significant family monthly income were found to have high statistically significant association with use of any family planning methods at the level of $p<0.05$, $p<0.01$.

Table 4.3.9: Association of demographic variables with type of family planning method

N=100

S.No.	Demographic Variable	Type of family planning method			χ^2/F	Sig.
		Copper T	Calendar Method	Condom		
1	**Husband occupation**					
	Catching Fish	**45**	3	3	**14.536 .013***	
	Selling Fish	3	0	0		
	Fish Export	-	-	-		
	Not working	2	0	0		
	Others	2	1	4		

***-High Statistical significance at p<0.001 level, **-High Statistical significance at p<0.01 level, *- Statistical Significance at p<0.05 level.

The table 4.3.9 shows that demographic variable occupation of husband were found to be statistically significant association with type of family planning method at the level of $p<0.05$.

Table 4.3.10: Association of demographic variables with having problems in uterus

N=100

S.No.	Demographic Variable	Having problems in uterus				χ^2 / F	Sig.
		Erosion of cervix	Vaginal discharge	Utero vaginal prolapsed, Erosion of cervix and Vaginal discharge	Normal		
1	**Educational status of Women**						
	Graduate or Post graduate	0	2	1	9	**23.890**	**.005****
	Intermediate or Post high school	0	4	0	**45**		
	High school certificate	0	3	0	20		
	Middle school certificate	0	5	0	7		
	Primary school certificate	1	1	0	2		
2	**Educational status of husband**						
	Graduate or Post graduate	0	0	1	5	**26.070**	**.004****
	Intermediate or Post high school	0	1	0	23		
	High school certificate	0	9	0	**46**		
	Middle school certificate	0	4	0	8		
	Primary school certificate	1	1	0	1		

****-High Statistical significance at p<0.01**

The table 4.3.10 shows that demographic variable educational status of women and educational status of husband were found to be high statistically significant association with genital problem of Women at the level of $p<0.01$.

CHAPTER-5

DISCUSSION

DISCUSSION

This chapter deals with the discussion on the findings of the study interpreted from the statistical analysis. The findings are discussed in relation to the objectives, need for the study, related literature, conceptual framework and null hypothesizes specified in the study. It is presented in line with the objectives of the study.

Description of the demographic variables among married women in coastal region

With regard to age in years, 29 (29%) were between the age of 36-40 years, 96(96%) of them were Hindu, 49(49%) of them were intermediate education. Educational status of the husband, 55(55%) of their husband had high schooling, 80(80%) of them were earning an income of Rs. 1803-5386, 55(55%) of them were working in the field of knitting ropes, 83(83%) of their husband were fisherman, and all are married.

5.1 The first objective was to assess the risk factors of cervical cancer among married women in the coastal region.

The table 4.2.1 depicts the frequency and percentage distribution of personal factors of married women with tobacco usage, alcohol usage, dietary pattern and shellfish eating. With regard none of them had habit of tobacco and alcohol usage, 99(99%) of them were non vegetarian, 71(71%) of them were eating shellfish, 41(41%) of them had taking shellfish once in 6 months.

The table 4.2.2 depicts the frequency and percentage distribution of the menstrual and perineal hygiene factors with respect to age at menarche, regularity of menstrual cycle, type of sanitary napkin, change of sanitary napkin, drying of napkin, washing of perineum. With regard 10 (10%) of them attained menarche between 10-12 years,88(88%)of them had regular menstrual cycle, 67(67%) of them were using commercial pad, 33(33%) of them were using cloth as sanitary napkin during menstrual cycle, 71(71%)o them change the sanitary napkin thrice in a day, 33(33%) of them dry the napkin under the sun, all of them wash the perineum after urination and defecation.

The table 4.2.3 depicts the frequency and percentage distribution of sexual factors among married women 32(32%) of them had first sexual debut between 16 -20 years of age, 56(56%) of them had coitus with twice in a week, 1(1%) of them has not douche the vagina after coitus, 3% had extra marital relationship with another one person.

The table 4.2.4 depicts the frequency and percentage distribution of the family welfare practices and gynecological problems among married women. With regard to 57(57%) of them had got married between 17-21 years of age, 50(50%) of them were between 11-20 years of marital life, 9(9%) of them had given birth three and above children, 63(63%)of them were using family planning methods, 52(52%)of them were using copper T, in which 51% of them were using past 10 years.

The table 4.2.5 depicts the frequency and percentage distribution of the family welfare and gynecological problems with respect to painful bleeding after coitus, genital problem (Husband & women), problems in uterus and family history of cancer. With regard to 1(1%) of them had complaints of painful bleeding after coitus, 1(1%) of husband had genital problem, 16(16%) of women had genital problem 25(25%) of them had family history of cancer ,in that 15(15%) of them were paternal 10(10%) were maternal

The above findings were consistent with a cross sectional study conducted by Suma R.K (2011) among357 married women in the reproductive age group of 15 – 49 years at Kavoor to assess the risk factors. More than two third (87.2%) of the study population belonged to the age group of 30-49 years, 52.7% of the respondents belonged to class 1V socio economic status and 22.1% of the respondents were married before the age of 18 years. In this study 14% had their first child before the age of 18 years and 43.2% respondents had 3 or more than 3 children. Cervical erosion was found in 38.4% of the respondents. Various risk factors like early age at marriage, low socio economic status, and multi parity are present in the study population.

The above findings were consistent with the study conducted a cross sectional study by P.Swarnam, Vasantha, Gowri (2015) among 250 married fisher women at Tamilnadu to assess the vulnerability of the married fisher women for acquiring premalignant lesion by using convenient sampling technique. Data was collected by

structured questionnaire method. The findings of the study showed that significant association of risk factors such as advanced age, low socio economic status, pre marital sex and extra marital relationship.

The conceptual framework adopted for this study was Pender's Health Promotion Model, which supported the study and was helpful for the investigator to accomplish the study in an integrated manner. It helps the investigator to identify the modifiable and non modifiable risk factors, perceptual factors and finally likelihood of action to achieve the optimal health status.

5.2 The second objective was to associate the selected demographic variables with risk factors of cervical cancer among married women in the coastal region

The table 4.3.1 shows that the demographic variable educational status of the women was found to be high statistically significant, educational status of husband was found to be statistical significant association with dietary pattern at the level of $p<0.01$ and $p<0.05$ respectively.

The table 4.3.2 shows that the demographic variable age of women in years were found to be high statistically significant, educational status of husband were found to be statistical significant association with age at menarche at the level of $p<0.01$ and $p<0.05$ respectively.

The table 4.3.3 shows that the demographic variables age of women were found to have statistically significant, educational status of women and husband were found to have high statistically significant association with the type of sanitary napkin at the level of $p<0.05$,$p<0.001$ and $p<0.01$ respectively.

The table 4.3.4 shows that the demographic variables family monthly income and occupation of husband were found to be high statistically significant association with change of sanitary napkin at the level of $p<0.01$ respectively

The table 4.3.5 shows that demographic variables age of women in years and husband occupation were found to be high statistically significant religion ,educational

status of husband, monthly family income were found to be statistically significant association with frequency of coitus at the level of $p<0.001$,$p<0.05$ respectively.

The table 4.3.6 shows that demographic variable educational status of husband were found to have statistically significant association with the level of type of sanitary napkin at the level of $p<0.05$.

The table 4.3.7 shows that demographic variable age of women in years, family monthly income and occupation of husband were found to have high statistically significant educational status of women and husband , were found to have statistically significant association with the number of birth given at the level of $p<0.01$ and $p<0.05$ respectively.

The table 4.3.8 shows that demographic variable age of women were found to have statistically significant family monthly income were found to have high statistically significant association with use of any family planning methods at the level of $p<0.05$ and $p<0.01$.

The table 4.3.9 shows that demographic variable occupation of husband were found to be statistically significant association with type of family planning method at the level of $p<0.05$.

The table 4.3.10 shows that demographic variable educational status of women and educational status of husband were found to be high statistically significant association with genital problem among Women at the level of $p<0.01$.

The study concluded that age in years were found to be high statistically significant association with frequency of coitus, educational status of husband were found to be statistically significant with extra marital relationship and educational status of women and husband were found to be high statistical significant with gynecological factors.

The above findings were consistent of Margerette conducted a case control study to assess the familial risks of Cervical Intraepithelial Neoplasia , Cervical cancer.

Discuss possible practical guidelines for women with a family history of cervical cancer. Daughters and sisters of women with cervical cancer have been reported to have a relative risk of 1.5-2.3 to develop this type of cancer.

Hence the research hypothesis stated that there are significant risk factors for cervical cancer among married women was accepted for the above risk factors.

CHAPTER-6

SUMMARY, CONCLUSION, IMPLICATION, RECOMMENDATIONS & LIMITATIONS

SUMMARY, CONCLUSION, IMPLICATIONS, RECOMMENDATIONS AND LIMITATIONS

This chapter presents the summary, conclusion, implications, plan for research utilization, recommendations, plan for research dissemination and limitation of the study.

6.1 SUMMARY

Cancer has become an important public health problem with over 900,000 new cases occurring every year in India. It is estimated that there are nearly 2.5 million cases in the country with nearly 266,000 deaths occurring due to cancer. Cervical cancer has a high incidence amongst Indian women. Cancer registers have also highlighted that more than 70% of cancers in females occur in the age group of 15- 44, and that this cancer exercise an adverse influence on the productive role of women in our society. Over 70% of patients report for diagnostic and treatment services at an advanced stage of disease, resulting in poor survival and high mortality rates. The cognizance of cervical cancer is fundamental responsibility of medical professionals in order to detect, diagnose and treat at early stage. Thus to disseminate and reach out the Awareness of cervical cancer, community health nurse play a magnified role in promoting Mass awareness campaigns and screening programme to reduce the magnitude of the problem.

The objectives of the study were

1. To assess the risk factors of cervical cancer among married women in the coastal region.
2. To associate the selected demographic variables with risk factors of cervical cancer among married women in the coastal region

The study was based on the assumptions that

Married women residing in coastal region may have the risk of developing cervical cancer.

The research hypothesis formulated were

There is a significant association of selected demographic variables with risk factors of cervical cancer among married women.

The investigator has done an in depth review of literature which included both theoretical and empirical related studies and statistics which provided a strong foundation for the study, including the basis for the conceptual framework and formation of the tool and to select the research methodology, namely non experimental descriptive research design which was found to be suitable for the study.

The conceptual framework based on Pender's Health Promotion Model (1984), this model focuses on aspects of individual level of wellbeing.

The content validity of the data collection tool was obtained from 2 Medical experts and 3 Nursing experts in the field of Obstetrics and Gynecology.

The pilot study was conducted in coastal region Thrikkunnapuzha, Alappuzha District, kerala. The findings of the study gave the evidence that the tool was feasible and practicable to conduct the main study.

The main study was conducted in coastal region Thrikkunnapuzha, Alappuzha District, Kerala (100 married women),Non probability purposive sampling technique was used to select the samples and the sample size was 100 married women who fulfilled the selection criteria and ethical aspects were maintained throughout the study.

Structured interview schedule tool was used for data collection. Data collected were analyzed and associated based on the objectives and research hypotheses using descriptive and inferential statistics.

The major findings of the study revealed that

When associating demographic variable educational status of women with dietary pattern. The findings revealed that there was a high significant at $p<0.01$

When associating demographic variable age of women and husband occupation were found to be high statistically significant with frequency of coitus at $p<0.01$.

When associating demographic variable age of women were found to be high statistical significance with number of birth given at $p<0.05$.

When associating demographic variable monthly family income were found to be high statistical significant with change of sanitary napkin at $p<0.01$.

CONCLUSION

The researcher identified that sexual factors such as early age at first coitus, extra marital relationship, family welfare practices such as number of birth given, gynaecological factors , menstrual factors such as using cloth as sanitary napkin were the risk factors of cervical cancer among married women in coastal region. The study findings revealed that there was a statistically significant association of selected risk factors with demographic variables therefore; a woman must gain adequate awareness on control of risk factors of cervical cancer. Mass awareness campaigns and screening programme may be initiated as per the guidelines laid down by professional organizations to reduce the magnitude of the problem.

6.3 IMPLICATIONS

The investigator has drawn the following implications from the study, which is of vital concern in the field of Nursing Practice, Nursing Administration

6.3.1 Nursing Practice

- The midwife practitioner should play a vital role in assessing the risk factors of cervical cancer, in order to reduce the morbidity rates.
- Encourage frequent screening procedures among vulnerable and high risk groups.
- Implement frequent Mass Education and Awareness Programme inorder to identify the risk factors of cervical cancer in OPD.

6.3.2 Nursing Education

- Nursing curriculum should include all the leading cancer risk assessment topics so that the student nurses are trained to assess and educate, create awareness to the public on cancers.
- Conduct frequent seminars, workshops, and conferences for students regarding the recent advancement in risk assessment of cancer cervix in order to provide updated information to enhance their knowledge.

- Encourage the nursing students for effective utilization of research based practice**.**

6.3.3 Nursing Administration

The nurse administrator within the community or society should:

- Design an appropriate strategy for conducting screening program of cervical cancer
- Make the staff to carry out periodical cervical cancer assessment and provide surveillance and present an updated epidemiological picture of cervical cancer among married women
- Incorporate the findings of the study to plan training program for all health care personnel at peripheral health units
- Collaborate with governing bodies and non-governmental organizations to create policies, mobilize resources and create awareness on cervical cancer.

6.3.4 Nursing Research

As a nurse researcher,

- Disseminate the findings of the study through conferences, seminars and by publishing in journals and websites.
- The findings of the study will help the professional nurses and nursing students to improve their knowledge and assessment techniques.
- Promote in depth research on each risk factors and its contribution towards cervical cancer.
- This study implies on utilization of evidence based practice in clinical and community settings in preventive aspects of cervical cancer.

6.6 RECOMMENDATIONS

The investigator recommends

- Utilize the findings of the study to plan regular and periodic health screening in coastal region through community health centres.
- To motivate public to organize campaign about risk factors of cervical cancer , to adapt early life style practices and to modify the modifiable risk factors to prevent cervical cancer

- To conduct studies to identify the role of each single risk factor towards the causation of cervical cancer.
- To conduct similar studies in large population and in different coastal areas

6.7 LIMITATIONS

The investigator found

- Difficult to obtain setting permission
- The married women were hesitant to discuss about the personal details.

6.4 PLAN FOR RESEARCH DISSEMINATION

1. Research findings of the main study were published in the 4th International Conference held at Omayal Achi College of Nursing (2016).
2. Research results will be published in Online Journal of ICCR.www.iccrjnr.com and Tamil Nadu nurse midwife journals.
3. Research findings will be put up in newspaper articles

6.5 UTILIZATION OF RESEARCH FINDINGS

The research findings will be incorporated in community health centre

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APPENDICES

LETTER SEEKING EXPERT'S OPINION FOR CONTENT VALIDITY

From

Mrs.Susan.K

M.Sc.(N) I year

Omayal Achi College of Nursing,

Puzhal, Chennai

To

Respected Sir/Madam,

Sub: Requisition for expert opinion for content validity.

I am **Mrs.Susan.K,** doing my M.sc Nursing I year specializing in Obstetrics and Gynaecological Nursing at Omayal Achi College of Nursing during May 2014-2016, under the guidance of Dr.Mrs.Kanchana, Principal and Research Director, ICCR and speciality Guide Mrs.Beulah Jayaselvi, Assistant Professor. As a part of my research project to be submitted to the Tamil Nadu Dr. M.G.R. Medical University, Guindy December 2014 session and in partial fulfillment of the University requirement for the award of M.Sc(N) degree, I am conducting **"A descriptive study to assess the risk factors of cervical cancer among married women in selected coastal region, Kerala" 2015.** I have enclosed my data collection and intervention tool for your expert guidance and validation. Kindly do the needful.

Thanking you,

Yours faithfully

(K.Susan)

ENCLOSURES:

1) Research proposal
2) Data collection tool
3) Content validity form
4) Certificate for content validity

LIST OF EXPERTS FOR CONTENT VALIDITY

MEDICAL EXPERTS:

1. **Dr.S.Lalitha, MBBS., DGO(O&G), HOD**

   Department of Obstetrics and Gynecology,

   Sir Ivan Stedeford Hospital,

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2. **Dr.(Mrs) Sucharitha D.G.O, DNB (O&G)., F.MAS.,**

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NURSING EXPERTS:

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2. **Dr. Latha M.Sc.,(N), Ph.D., (N)**

   Professor & HOD,

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   SRM College of Nursing,

   SRM University,

   Kattankulathur- 603 203.

3. Dr. S.Rajeswari M.Sc.,(N), Ph.D., (N)

Associate Professor,

Department of Obstetrics & Gynecological Nursing,

Sri Ramachandra College of Nursing,

Sri Ramachandra University,

Chennai- 600 116.

CERTIFICATE FOR CONTENT VALIDITY

This is to certify that the data collection and intervention tool developed by **Mrs.K.Susan,** M.Sc(Nursing) I year student of Omayal Achi College of Nursing for her study **"A descriptive study to assess the risk factors of cervical cancer among married women in selected coastal region, Kerala"2015,** is validated by the undersigned and she can proceed with this tool to conduct the main study.

Signature with date:

Seal:

APPENDIX – D

CERTIFICATE OF ENGLISH EDITING

TO WHOM SO EVER IT MAY CONCERN

This is to certify that Mrs.K.Susan., M.Sc.Nursing II year student of Omayal Achi College of Nursing, Chennai, conducted a dissertation work on **"A descriptive study to assess the risk factors of cervical cancer among married women in selected coastal region, Kerala"2015** under the guidance of Mrs.Beulah Jayaselvi, as a partial fulfillment of The Tamilnadu Dr.M.G.R.Medical University requirement for the award of M.Sc.Nursing degree is edited for English language appropriateness by

_____

Signature with Date :

Seal :

CERTIFICATE OF MALAYALAM EDITING

TO WHOM SO EVER IT MAY CONCERN

This is to certify that Mrs. K. Susan., M.Sc.Nursing II year student of Omayal Achi College of Nursing, Chennai, conducted a dissertation work on **""A descriptive study to assess the risk factors of cervical cancer among married women in selected coastal region, Kerala"2015"** under the guidance of Mrs.Beulah Jayaselvi, as a partial fulfillment of The Tamilnadu Dr.M.G.R.Medical University requirement for the award of M.Sc.Nursing degree is edited for Malayalam language appropriateness by

_____

Signature with Date :

Seal :

APPENDIX – E

INFORMED CONSENT REQUISITION FORM

Good morning,

I am Mrs.K.Susan,studying M.Sc.Nursing II year in Omayal Achi College of Nursing, Chennai. As a partial fulfilment of my course, I am conducting **"A descriptive study to assess the risk factors of cervical cancer among married women in selected coastal region, Kerala, 2015"**. So I kindly request you to participate in this study and co-operate with me by giving answer to my questions. I assure you that your responses will be kept confidential and this participation will be useful for your healthy life.

Thank you,

K.SUSAN

INFORMED CONSENT

I understand that I am being asked to participate in a research study conducted by **Mrs.K.Susan,** M.Sc.Nursing II year student of Omayal Achi College of Nursing. As I agree to participate in this study, I realize that I will be interviewed about cervical cancer and will be assessed regarding the risk factors.

I recognize that my participation in this study is entirely voluntary and I may withdraw from the study at any time as I wish.

I understand that all my study details will be kept confidential. I completely agree that these information can be used in nursing publication or presentations.

Signature/Thumb print of participant: Date:

Signature of Investigator: Date:

RISK ASSESSMENT TOOL FOR CERVICAL CANCER

PART A. DATA COLLECTION TOOL

SECTION-A: DEMOGRAPHIC DATA

Read the following items carefully and complete it by placing tick mark

1. Age in years----------

    1. ≤20 yrs
    2. 21-25yrs
    3. 26-30yrs
    4. 30-35yrs
    5. 36-40yrs
    6. 41-45yrs
    7. 46-50yrs

2. Religion

    1. Hindu
    2. Muslim
    3. Christian
    4. Others

3. Educational status of women

    1. Profession or Honours
    2. Graduate or Post graduate
    3. Intermediate or Post high school
    4. High school certificate
    5. Middle school certificate
    6. Primary school certificate
    7. Non-literate
    8. Others

4. Educational status of husband

    1. Profession or Honours
    2. Graduate or Post graduate
    3. Intermediate or Post high school

4. High school certificate
5. Middle school certificate
6. Primary school certificate
7. Non-literate
8. Others

5. Monthly family income in Rs,
    1. Rs.≥36017
    2. Rs.13495-17999
    3. Rs.8989-13494
    4. Rs.5387-8988
    5. Rs.1803-5386

6. Occupation of wife
    1. Yes
    2. No

    If yes, where are you working?
        1. Fish exporting factory
        2. Garments exporting Factory
        3. Vendors
        4. Others(Specify)

    If No, What are the House –Chores?
        1. Preserving Fish
        2. Selling fish
        3. House-hold work
        4. Others(specify)

7. Husband occupation
    1. Catching fish
    2. Selling fish
    3. Fish exporting factory
    4. No wok
    5. Others(Specify)

8. Marital status
    1. Married
    2. Widow
    3. Separated
    4. Divorced
    5. Others

SECTION B:-TOOL TO ASSESS THE RISK FACTORS FOR CERVICAL CANCER

PERSONAL FACTORS

1. usage of tobacco

1) Yes
2) No

If yes how many time /day----------

How many years ----------

Number of packets----------

2. Type of Tobacco

1) Cigar(suruttu)
2) Cigarette
3) Beedi
4) Pipe
5) Filter less cigarette
6) Filter cigarette
7) Snuff
8) Chewing

3. Alcohol

1) Yes
2) No

If yes how many years of taking alcohol----------

How many times / day----------

Quantity----------

4. Type of alcohol

1) Arrack(Country liquor)
2) Gin/Brandy/Whisky/Rum
3) Fortified wine
4) Beer
5) Toddy

DIETARY FACTORS

5. Dietary pattern

1) Vegetarian
2) Non vegetarian
3) Ova vegetarian

6. Shellfish eating

1) Yes
2) No

If yes, frequency----------

1) Daily
2) Once in a 3month
3) Once in a 6 month
4) Once in a year

MENSTRUAL HYGIENE FACTORS

7. Age at menarche in years----------

1.10-13yrs

2.14-16yrs

3.17-20yrs

8. Regularity of menstrual cycle

1) Regular(28-30 days cycle)
2) Irregular

If irregular how often----------

9. Type of sanitary napkin usage

1) Commercial pad
2) Cloth
3) Others

10. Change of sanitary napkin/ cloth

1) Once in a day
2) Twice in a day

3) Thrice in a day
4) More than three times

11. Drying of cloth (if the women use the cloth)
    a. Under the sun
    b. Inside the bathroom
    c. Throw in dust bin after single use

PERINEAL HYGIENE FACTORS

12. Washing of perineum
    1) After urination
    2) After defecation
    3) Both a and b

SEXUAL FACTORS

13. Age of first sexual debut
    1) ≤15 yrs
    2) 16-20 yrs
    3) 21-25yrs
    4) 26-30 yrs

14. Frequency of coitus (since 1 yr)
    1) Daily
    2) Weekly thrice
    3) Weekly twice
    4) Weekly once
    5) Once in a while
    6) Not applicable

15. Vaginal douching after coitus
    1) Yes
    2) No

16. (A) Extra marital relationship

1)Yes

2)No

If yes----------

(B) Number of sex partners

1) One
2) Two
3) Three
4) More than three

FAMILY WELFARE PRACTICES AND GYNECOLOGICAL PROBLEMS

17. Age at marriage in years----------

1) ≤19yrs
2) 20-25yrs
3) 26-30yrs

18. Duration of marital life in years----------

1)1-10yrs

2)11-20yrs

3)21-30yrs

4)>31yrs

19. Number of child birth

1) Nil
2) One
3) Two
4) Three or more

20. Do you use any Temporary /spacing methods of family planning (since marriage)

1) Yes
2) No

If yes,

1) Birth pills

2) Copper T
3) Calendar method
4) Condom
5) None

21. If birth pills, type----------
Duration of usage----------

22. If Copper T duration of usage ----------
1)<6 months
2)6-12 months
3)1-2 year
4)3-5 year

23. Painful bleeding after coitus (Current one year)
1) Yes
2) No
3) Not applicable

24. Husband having problem
1) Ulcer in penis
2) Discharge in penis
3) Rashes or lesions in penis
4) Others(Specify)
5) None

25. Do you have any of the following problems in reproductive organ
1) Utero vaginal prolapsed
2) Vaginal discharge
3) a+b
4) None

26. Family history of any type of cancer

Site of cancer	**Maternal**	**Paternal**	**Both**
1).Breast cancer			
2)Uterine cancer			
3)Ovarian cancer			
4)Cervical cancer			

APPENDIX – G

CODING FOR DEMOGRAPHIC VARIABLES

Demographic Variables	Code No.
1. Age in years----------	
1. ≤20 yrs	1
2. 21-25yrs	2
3. 26-30yrs	3
4. 30-35yrs	4
5. 36-40yrs	5
6. 41-45yrs	6
7. 46-50yrs	7
2. Religion	
1. Hindu	1
2. Muslim	2
3. Christian	3
4. Others	4
3. Educational status of women	
1. Profession or Honours	1
2. Graduate or Post graduate	2
3. Intermediate or Post high school	3
4. High school certificate	4
5. Middle school certificate	5
6. Primary school certificate	6
7. Non-literate	7
8. Others	8
4. Educational status of husband	
1. Profession or Honours	1
2. Graduate or Post graduate	2
3. Intermediate or Post high school	3

4. High school certificate 4
5. Middle school certificate 5
6. Primary school certificate 6
7. Non-literate 7
8. Others 8

5. Monthly family income in Rs,

1. Rs.≥36017 1
2. Rs.13495-17999 2
3. Rs.8989-13494 3
4. Rs.5387-8988 4
5. Rs.1803-5386 5

6. Occupation of wife

1. Yes 1
2. No 1

If yes, where are you working?

1. Fish exporting factory 1
2. Garments exporting Factory 2
3. Vendors 3
4. Others(Specify) 4

If No, What are the House –Chores?

1. Preserving Fish 1
2. Selling fish 2
3. House-hold work 3
4. Others(specify) 4

7. Husband occupation

1. Catching fish 1
2. Selling fish 2
3. Fish exporting factory 3
4. No wok 4
5. Others(Specify) 5

8. Marital status

1. Married	1
2. Widow	2
3. Separated	3
4. Divorced	4
5. Others	5

APPENDIX – H

BLUE PRINT

S.NO.	CONTENT	ITEM	TOTAL ITEM	PERCENTAGE
I	**Demographic variables**	1-8	8	100
II	**Structured interview schedule**			
	Personal factors	1-4	4	15.38%
	Dietary factors	5-6	2	7.69%
	Menstrual factors	7-11	5	19.23%
	Perineal hygiene factors	12	1	3.84%
	Sexual factors	13-16	4	15.38%
	Family welfare practices and gynaecological factors	17-26	10	38.46%
	Total	**26**	**26**	**100**

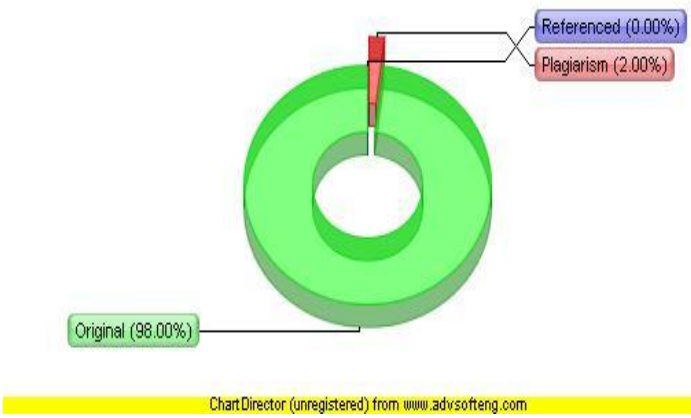
APPENDIX – I

Plagiarism Detector - Originality Report:

Analyzed document:

"Chapters.docx"

Relation chart:



Core version:
902
Size:
83673 words
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Generated:
2/11/2016 11:04:25 AM
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Processed resources details:

98 - Ok / 17 – Failed

Important notes:

Wikipedia:	Google Books:	Ghostwriting services:	Anti-cheating:
[not detected]	[not detected]	[not detected]	[not detected]

APPENDIX – J

DISSERTATION EXECUTION PLAN - GANNT CHART																			
S.NO	**CALANDER MONTHS**	**Nov '14**	**Dec '14**	**Jan '15**	**Feb '15**	**Mar '15**	**Apr '15**	**May '15**	**June '15**	**July '15**	**Aug '15**	**Sep '15**	**Oct '15**	**Nov '15**	**Dec '15**	**Jan '16**	**Feb '16**	**Mar '16**	**Apr '16**
A	**Conceptual phase**																		
1	Problem identification																		
2	Literature review																		
3	Clinical fieldwork																		
4	Theoretical framework																		
5	Hypothesis formulation																		
B	**Design & planning phase**																		
6	Research design																		
7	Intervention protocol																		
8	Population specification																		
9	Sampling plan																		
10	Data collection plan																		
11	Ethics procedure																		
12	Finalization of plans																		
C	**Empirical phase**																		
13	Data collection																		
14	Data preparation																		
D	**Analytical phase**																		
15	Data analysis																		
16	Interpretation of results																		
E	**Dissemination phase**																		
17	Presentation or report																		
18	Utilization of findings																		
	Calendar months	**11**	**12**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	09	10	11	12	13	01	02	**03**